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**LATEST NEWS AND MOVES
ON THE GP CIRCUIT**

**OUT OF THE BLUE—
MARCH IN FORMULA ONE**

**NANNINI—GETTING SERIOUS
ABOUT FORMULA ONE**

GP REPORTS INCLUDING ITALY

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It can accelerate from 0-60 in a little over 4 seconds. And on full throttle, it's capable of a breathtaking 161mph.

The immense power comes from a new 16 valve 2.0 litre engine.

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The new 16 valve Astra GTE. £12,195.46.

THE 16 VALVE ASTRA GTE.



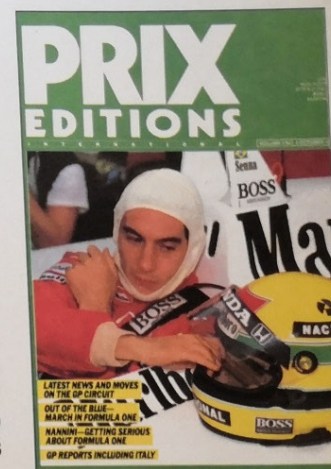
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FOREVER SMITTEN.**



Canon

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World Championship points leader
Ayrton Senna — Formula One
Success

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World News



Camel — two year contract with Honda

MONZA

Engine news galore from Monza paddock ... Honda announced Saturday that it will supply only the Marlboro McLaren team in 1989. Camel Team Lotus has a two year contract with Honda which expires at the end of this season and will not be renewed. Unlike the Honda Williams split announced late last year, Lotus and Honda parted company on amicable terms. Honda advised Lotus May 1 that its resources were being stretched by having to develop this year's turbo engine as well as the new normally aspirated unit for 1989. ■



Piccinini stays behind his desk



Zakspeed will move to Yamaha in 1989

PICCININI RETIRES

Ferrari team manager Marco Piccinini officially announced his retirement here Saturday. He will remain on the Ferrari board of directors. No replacement has been named. ■

OLIVER SUES

Jackie Oliver is suing the Italian La Trussardi s.p.a. company for pulling out of its sponsorship deal with his Arrows team last year. ■

YAMAHA-ZAKSPEED

Another Japanese manufacturer was in the news as Yamaha and the West Zakspeed team announced an exclusive arrangement for 1989. Unlike Honda, Yamaha has concentrated on motorcycles and does not have an automotive background and this



Ghinzani with team management — will he move in 1989?

marks its first entrance into Formula One. Yamaha's previous auto racing experience includes a Formula 2 engine in 1984 and a joint effort with Cosworth to build a Formula 3000 engine.

Three of Yamaha's top people were in Monza to make the announcement Friday — Ryuichi Yamashita, a board member and head of the F1 program; Yamaha's European vice president Takashi Kajikawa and executive engineer S. Iwasa.

The deal was finalized a few days before it was made public and happened almost by accident. 'It was like two people bumping into each other on the street,' West Zakspeed spokesman Walt Stannard said. 'It just happened.' Stannard said that Bernie Ecclestone played a major role in getting Yamaha interested in Formula One.

The new engine has already run on the dyno and is expected to be in a car by November. Yamaha designed and built the engine from the ground up. The engine is a 75 degree V8 with five valves per cylinder, developing over 600 horsepower at 11,000 rpm and weighs about 320 pounds. Neither Yamaha nor Zakspeed personnel would say who funded the project. Zakspeed originally planned to use Ford Cosworth engines, and Cosworth still has their deposit. Zakspeed has yet to announce its drivers for 1989. Japanese Formula 3000 driver Aguri Suzuki is on their list.

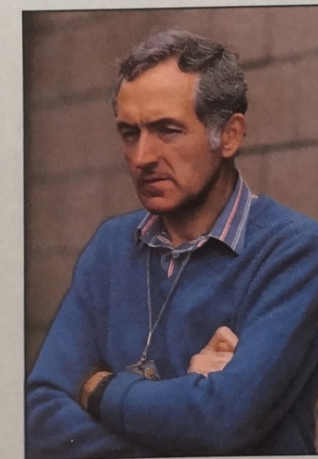
Yamaha plans to be involved in Formula One over the long term, and

its engines will be available to other teams in 1990. The thinking on pitlane was that Yamaha chose the small Zakspeed team in order to make a low key entrance into Formula One.

JUDD-MARCH

The Leyton House March team has placed an order for 25 1989 Judd engines. While March does not have an exclusive deal with Judd for the new motor, this large order will insure prime treatment. ■

John Judd — majestic orders for 1989



WARWICK STAYS WITH ARROWS

Derek Warwick had been negotiating a Lotus drive for 1989, but he will be staying with the Arrows team. Lotus driver Nelson Piquet's contract insures him number one treatment, and Warwick was not prepared to play the number two role at Lotus.

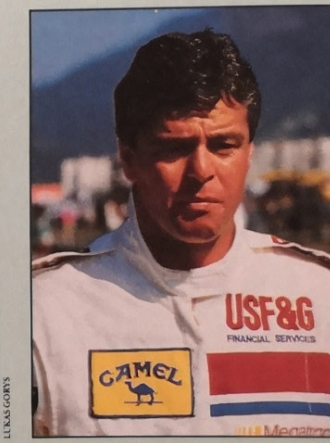
USF&G will remain as Arrows' main sponsor, and the team's engine plans will be announced later this year. They will use a V8, and the two main candidates are the Judd and the Ford DFR.

American Eddie Cheever has yet to finalize his plans for 1989. One of his options is the CART team that Tom Walkinshaw and Jaguar are said to be considering. ■

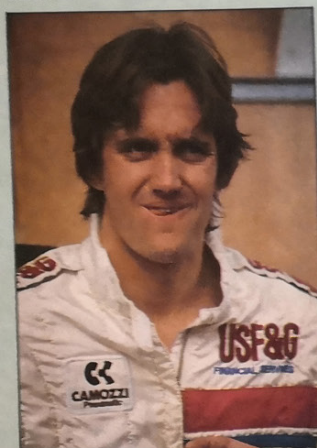


Arrows team manager — Alan Rees

Warwick stays with Arrows in 1989



Cheever — CART or F1?



MONZA TRADITION

With the first Italian Grand Prix being held in 1922, Monza has a long tradition. All the great Formula One drivers and cars have raced there. Part of the Monza tradition is the huge spectator turn out. The 'tifosi' are fanatical Ferrari fans, and they fill every corner of the wooded Monza park which is located on the outskirts of Milan. ESPN's Grand Prix announcers have both been involved in Monza's history. Editor Chris Economaki was the English speaking announcer for the 'Two Worlds 500' races held here in 1957 and 1958. The races pitted Indy cars against European cars on the high-banked oval. The Formula One cars of that era didn't meet the rules of the event,



Difficult to drive — Ligier

MODIFIED LIGIER

The Ligier team modified its car after the Belgian Grand Prix, revising the bodywork and resituating the water radiators and cooling system. The car didn't even arrive at the track until a few hours before practice began Friday morning. Stefan Johansson, celebrating his 32nd birthday, found the new car difficult to drive, but it was engine problems which ended his qualifying hopes. ■



Competition for Goodyear in 1989

GOODYEAR TESTING!

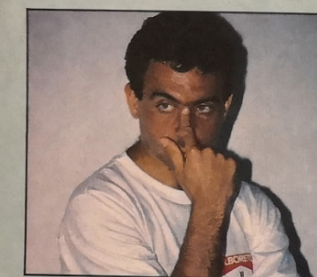
Goodyear's European public relations rep Barry Griffin likes to run around each track on the Grand Prix tour. On Thursday he got permission from race officials to jog around the 3.604 miles of Monza. Halfway around the lap he encountered a lone course worker who didn't think Griffin should be there and began hitting him with a large broom! Griffin escaped to tell the tale. ■

SUZUKA

Grandstand seats for the October 30th Japanese Grand Prix at the Suzuka circuit are sold out. ■

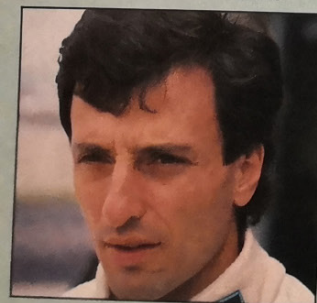
PATRESE OVER ALBORETO FROM WILLIAMS

It came as a surprise that Riccardo Patrese will remain with the Williams team in 1989. Michele Alboreto was surprised and hurt, for he was near to closing with the team. Owner Frank Williams wanted Alboreto, but designer Patrick Head pushed to retain Patrese. ■



Alboreto scored a point at Monza

Patrese remains at Williams



so the Indy cars raced and beat sports cars and open wheel specials. Jimmy Bryan won in '57 and Jim Rathmann won in '58.

David Hobbs raced on a circuit which combined the oval and road course sections. He and Paul Hawkins drove a Ford GT40 to victory in the 1968 1000 kilometre endurance race. He also raced a Honda V12 in the 1968 Grand Prix, but retired.

The Formula One cars raced on the banking through 1961, while the last endurance race on the banks was in 1969. ■



Stefan Johansson offers a ride to De Cesaris after his spin at Monaco

World News

Gerard Larrousse and Didier Calmels look to the future with Ducarouge

DUCAROUGE-LOLA

Lotus designer Gerard Ducarouge will join the Larrousse Calmels Lola team in 1989. The team's current drivers, Frenchmen Phillipe Alliot and Yannick Dalmas, will return next season. ■



BENETTON-HERBERT

Ford's racing director Michael Kranefuss was at Monza, and he said that the Benetton Ford team is interested in Johnny Herbert. But the young British star is currently recovering from an accident last month in which he broke both his ankles. Kranefuss also said that he hopes to see Ford's new V8 engine in a car and testing by February 1989. ■



CAMEL TEAM LOTUS POWERED BY JUDD ENGINES IN 1989

Camel Team Lotus is to be powered by Judd engines as Formula 1 goes into the new era of normally aspirated engines in 1989.

'We have chosen the V8 configuration because we believe it will be very competitive,' said Camel Team Lotus Team manager, Peter Warr. 'And we are pursuing our own ideas about developments in several other departments.'

Tobacco giant, R.J. Reynolds Tobacco International Inc., is to continue to back Team Lotus through its leading international brand, Camel, for a third successive year.

And the team and their major sponsor will also continue their associations with triple Formula 1 World Champion, Nelson Piquet — one of the most successful Grand Prix drivers of all time.

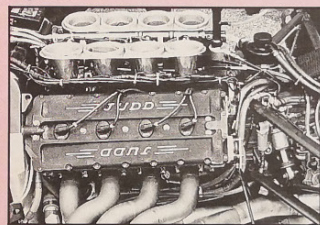
Reflecting on two years of Honda power, Warr added, 'Later this season our relationship with Honda comes to an end and I would like to take this opportunity to thank them for their untiring commitment the entire time



Lotus will use Judd V8 instead of the Honda engine

Piquet stays with Lotus

Configuration — 90 degree V8
Capacity — 3498cc
Four valves per cylinder
Engine Management system — Zytek
Ignition — Lucas
Cylinder Block/Heads material — Aluminium alloy
Lower Crankcase material — Magnesium alloy
Camshaft and auxiliary drives — Spur gears



we have worked together.'

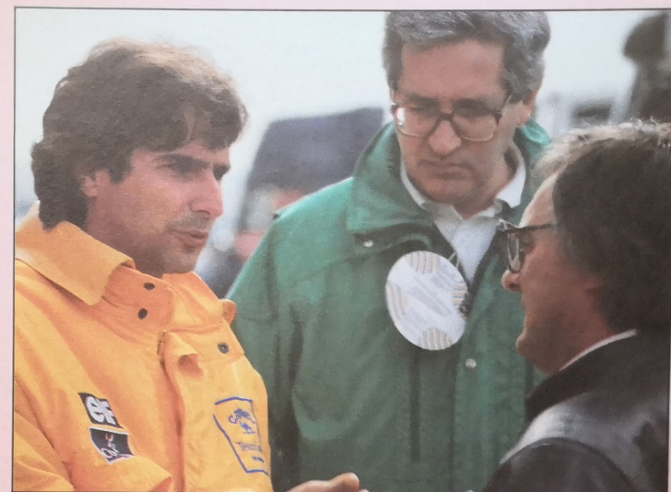
Lester W. Pullen, Chairman and Chief Executive Officer of R.J. Reynolds Tobacco Int. Inc., said of the team's exciting plans for 1989: 'Although Camel Team Lotus have had a somewhat trying season in 1988, in spite of their tireless efforts to maintain competitiveness, we believe the plans for 1989 are positive steps to put the team back on top.'

W. Duncan Lee, international Director of Sponsorships and Promotions for R.J. Reynolds Tobacco Int. Inc. added: 'We are pleased with the announcement and know that it represents the first in a series of elements which will form a competitive package in the future.' ■

DETROIT STREETS

While many members of the Formula One circus hate the Detroit Grand Prix, car owner Ken Tyrrell says the race through the downtown streets must remain on the schedule.

'The race through the streets and around the Ren Cen is something



unique,' Tyrrell said. 'I found out that Ford had sold the pit area parking lot) and I said to Edsel Ford 'buy it back'. There are several solutions to keeping the race downtown. It depends on how bad Detroit wants the Grand Prix. I want the Detroit Grand Prix to remain where it is. It's a very special race.' ■

Detroit — something unique



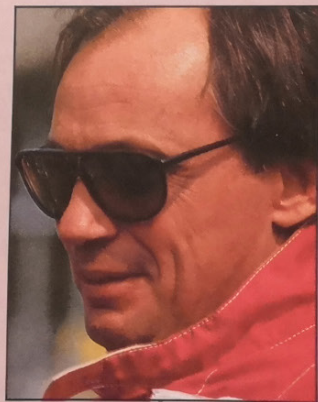
ENZO LUNCH

Enzo Ferrari and FISA president Jean-Marie Balestre traditionally had a private lunch every year before the Italian Grand Prix. This year Balestre visited Ferrari's grave, had lunch with M. Piero Ferrari (Ferrari's son) and his family, and then issued a press release about it! ■

MANSELL STILL ILL

Williams driver Nigel Mansell is still suffering from the chicken pox and couldn't drive in the Italian Grand Prix. Williams offered the seat to Martin Brundle who subbed for Mansell in the Belgian Grand Prix. But Brundle turned it down for he didn't want the possibility of an injury to jeopardize his World Sports Car title hopes with Tom Walkinshaw's Jaguar team.

Frenchman Jean Louis Schlesser, who has done many miles of testing for Williams, took the drive. Schlesser, who admits to being 36-years-old, is actually 40-something. Ironically Schlesser is currently leading Brundle in the World Sports Car points table. ■



Schlesser - 30 or 40?

BY DAN KNUTSON

FERRARI'S LATE SEASON CHARGE

While the 1988 constructors' championship has already been clinched by the Marlboro-McLaren-Honda team and the world driving title is certain to be shared by one of their two drivers Ayrton Senna and Alain Prost, the recent Italian Grand Prix result may well herald a late season charge by the Ferrari Team and MWCT drivers Gerhard Berger and Michele Alboreto similar to the end of last year's season.

Gerhard Berger almost won the Portuguese Grand Prix at Estoril until a last moment spin handed the race to Prost, while he then went on to win the Japanese and Australian GP's heading home a Ferrari double at the last race.

'For sure it would have been difficult to beat Senna in Italy had he not had the accident two laps from the end, but that is part of the racing. I was able to push him in the closing laps in the hope that he would maybe make a mistake and he did, so I won,' said Berger who is optimistic about the chances of another win or two before the end of the season.

'I was able to run the pace of the McLaren-Honda for much of the race and with the other slower circuits like Estoril, Jerez and Adelaide we should have another good chance,' he added. Ferrari's one-two win in Monza broke the McLaren-Honda stranglehold on this year's season and their 11 race string of consecutive wins. An engine failure for Prost meant that neither he

nor Senna were able to add to their championship scores.

With four races now left to run for this year's title, Senna still holds a three point and a more important three win lead over Prost, another win for Senna in Portugal, scene of his first GP victory in 1985, would virtually assure the Brazilian of the 1988 World Championship.

In order to be beaten, Prost would have to win the remaining three races after Portugal and Senna finish no higher than fourth.

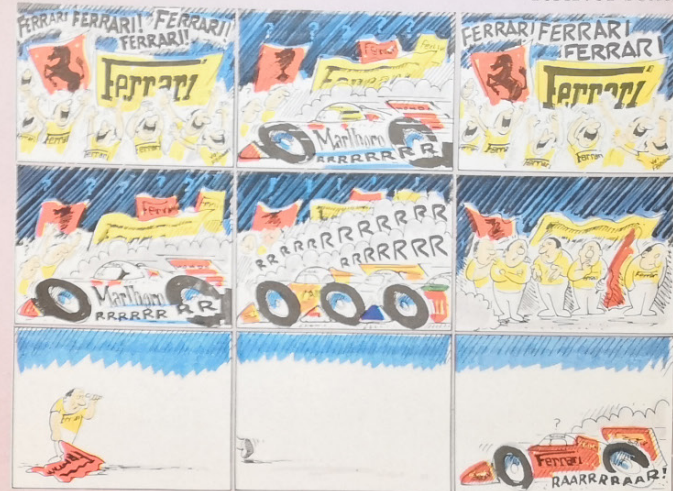
Michele Alboreto's second place in Italy now moves him back into fourth place overall in the points standings, just one point ahead of Thierry Boutsen, the leading non-turbo points scorer.

For the past several races however, Boutsen has come under increasing pressure from the March-Judd's of MWCT drivers Mauricio Gugelmin and Ivan Capelli. Capelli scored his fourth fifth place of the year and was the first non-turbo driver to the finish in Italy, which has now moved him up to ninth overall in the World Championship points standings.

With the slower tracks of Portugal and Jerez favouring the non-turbo-charged cars more than the quicker circuits, Capelli and Gugelmin should add more valuable points to their

season total before the end of the season and perhaps even a finish in the top three.

... at Imola. The Italian fans deserved better



MESSAGE FROM THE PUBLISHERS — 1989 Publishing schedule

Because of the tremendous response Prix Editions International magazine has received in the United Kingdom and Europe, the publishers have decided to release the magazine 7 times a year **only** overseas.

Australian readers will have to **subscribe** to the 3 issues that will not be on the newstands.

For further information, see last page coupon or dial (08) 223 6313 and speak to our subscriptions manager — Tracy Gebert.





ITALIAN GRAND PRIX



A Ferrari 12 at Monza? That hadn't happened since Jody Scheckter led Gilles Villeneuve home in 1979, the last time the Prancing Horses had galloped home first on their home ground. No wonder the thousands of fans cheered their heroes to the echo as Senna sat quietly — almost too quietly — in the TAG motorhome.



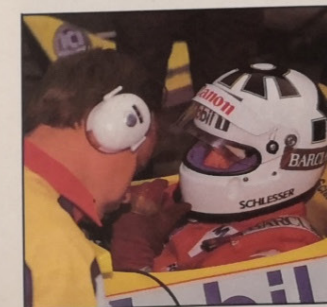
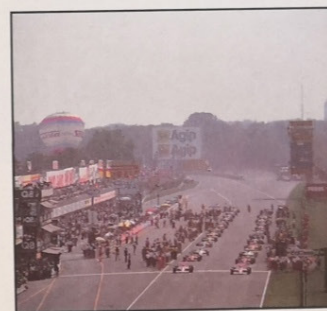
Was Ayrton Senna's McLaren in trouble? And did he really make a mistake as he came up to lap Jean Louis Schlesser? Those were two of the crucial questions at Monza that still reverberated to the screams of the delirious tifosi after the World Championship leader had spun and handed victory to the Ferraris of Gerhard Berger and Michele Alboreto. A Ferrari 12 at Monza? That hadn't happened since Jody Scheckter led Gilles Villeneuve home in 1979, the last time the Prancing Horses had galloped home first on their home ground. No wonder the thousands of fans cheered their heroes to the echo as Senna sat quietly — almost too quietly — in the TAG motorhome. Surrounded by Ron Dennis and the McLaren hierarchy, whose grand dream of winning all the races in a season had just been so rudely shattered, there was an air of almost deadly calm about the Brazilian. Since he'd climbed out of his trapped MP4/4, as it rocked helplessly on the outside kerb of the first chicane, he had kept his cool with amazing self control.

Jean-Louis Schlesser is outside. He wants to talk,' said a voice. Senna looked up as the 44 year-old Grand Prix debutant shuffled in — Schlesser, upholding the family name 20 years after his uncle Jo (after whom Guy Ligier's cars are type-numbered) had perished in the French GP at Rouen, is a big wheel in the World Sports Prototype Championship in his Sauber Mercedes. At that moment in the Monza paddock, however, he was merely contrite. As he had stepped out of his Williams



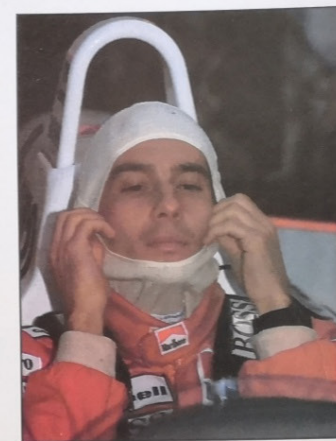
he was adamant the fault that had brought his car into such damning contact with Senna's did not lie with him. Now, he wasn't so sure. 'I'm sorry, I'm so, so sorry,' he repeated over and over again. Senna, motionless as a sphinx, said nothing until the frenchman had finally finished. Then he accepted his apology with equanimity.

That was the end of what had looked such a promising event for Honda Marlboro McLaren. Senna, typically, had dominated qualifying and set a new record of 10 pole positions in one season. Prior to Monza he had shared it with Niki Lauda, Ronnie Peterson and Nelson Piquet. Alain Prost had kept him company on the front row and actually led him off



the line, but by the time they reached the first chicane, Senna was through and simply blasted into the distance. 'How can he do it?' queried astounded observers as they resigned themselves to yet another demonstration run. The answer was two fold. Senna, quite simply, is brilliant on full tanks and tyres that aren't fully warm. And Prost's Honda engine had begun to misfire the minute he hit third gear. In final qualifying all Honda runners had used experimental high revving XE-3 variants of the RA163E in place of the usual XE-2s. In the race there was speculation that he and Satoru Nakajima had retained them.

After 22 laps the gap between the McLarens was 4.62 seconds as they outpaced Berger and Alboreto. By lap 28 Prost had it down to 2.54s and was attacking. In the pits Honda technicians were pouring over Nakajima's car after it had blown a piston; suddenly, the unthinkable happened as Prost's began to make similar noises. The Frenchman lost ground hand over fist and had been passed by Berger when he pitted to retire at the end of lap 34. On a fuel marginal circuit it seemed prolonged lean mixture running had been the downfall. Now McLaren and Honda faced a problem that was to become a dilemma. Way out front, Ayrton could afford to back off and richen the mixture at the expense of using more fuel. But as the race moved towards the 40th of its 51 laps, Berger was suddenly making rude inroads, with Alboreto pushing him all the way. The Austrian had overtaxed his fuel in the early stages chasing Prost; the Italian's car had initially been jumping out of fourth gear. By lap 40,



however, both were healthy and they were running so hard the team was begging them to ease off.

Bit by bit the gap came down and suddenly, as Senna went into lap 49, it was hovering around four seconds, slashed from 30.

Was he sandbagging? Did he have enough in hand to control the pace, or was he right up against his fuel limit? McLaren certainly wasn't about to say, but insiders are adamant the team has been near the bone a lot more this year than has ever been revealed publicly.

Ahead of Senna down the front straight, Schlesser was fighting with Mauricio Gugelmin's March even though it was lapping him. Going into the chicane he looked up and ran wide just as Senna steamed through on the left, thinking the Frenchman was about to go straight off.

Instead, he managed to get the Williams turned in just as Senna negotiated the right-hand section of the corner, and with two wheels in the dirt the FW12 whacked the McLaren's right-hand sidepod with its left front wheel and suddenly Senna was out, spun backwards onto the kerb.

The debate will rage for years. Why



than just his best race of the year. It was a slap in the face for Frank Williams and Patrick Head, who only days before had finally decided they don't require his services next year even though he is adamant they had shaken hands on a deal to that effect in Hungary. For a man facing the risk of unemployment in 1989, second place and fastest lap was a point proven.

With the supersonic McLaren challenge augering into the desert, raceday



didn't Senna wait? Schlesser shouldn't have tried to recover the situation once he'd got out of shape. Unless Ron Dennis and Honda elect to provide full information the truth of Senna's fuel situation will never be known, and as long as McLaren insists he was under no pressure blame must be apportioned on either side, albeit with the balance heavily tipped against Schlesser.

The crowd didn't care. With McLaren rowed out of its 12th consecutive 1988 victory, its beloved Ferraris crossed the line half a second apart, Berger deservedly picking up a nice little windfall after refusing to give up all year. For Alboreto it was more



was a good one for Arrows International after strong qualifying performances from Eddie Cheever and Derek Warwick as they lined up fifth and sixth behind the Ferraris. Revised turbocharger ducting and casings had transformed the Megatron engines and allowed them to run their full 2.5 bar boost for the first time all year, and Cheever was never lower than fifth as initially he fended off Thierry Boutsen's attack in the lead Benetton. The Belgian, however, was destined for disappointment as his Cosworth DFR began to cut out at high revs after half distance, and gradually he fell back to be engulfed by Warwick and Ivan Capelli.

At the start the Englishman had lost out and became embroiled in a hairy scrap with Capelli, Riccardo Patrese and Nelson Piquet. On a circuit on which he has won four times, the World Champion struggled yet again with the Lotus (which it was confirmed that weekend would have to make do without Honda power the following year), and this time he lasted only 12 laps before lack of a clutch caught him at a critical point in his battle and pitched him terminally into the sand at the first chicane.

That left Warwick to challenge Patrese's Williams, and though his Megatron was taking a beating as he over-revved it to overcome low-speed misfiring, he gradually drew away

from both Italians and was closing rapidly on his team-mate at the end. As the Ferraris battled for the lead, the two Arrows drivers waged a fabulous repeat of their Mexican dice, this time for third. Warwick made several lunges in those final laps, but each time the wily Cheever managed to hold him off in his best drive of the season, and their order remained constant to the flag.

Capelli, as has become the norm, was flying in the race after a troubled qualifying, and his flair was never more evident as he worked patiently past Patrese (who complained he had passed under a stationary yellow flag) and set off after Boutsen. The Belgian succumbed within a handful of laps, and the cheerful Italian netted another brace of points as Thierry staggered home, well clear of the oversteer-plagued Patrese for sixth.

His partner, Alessandro Nannini, had been cruelly robbed as the field set out on its green flag lap. Boutsen's Benetton had experienced throttle position sensor problems in the morning warm-up, and now the same thing happened to Sandro's. By the time he got going Senna was completing his first lap. Nevertheless, the Italian drove brilliantly to pull through the field in a run that netted him the fastest normally aspirated lap and fifth fastest overall, beaten only by the McLarens and the Ferraris. Had he started from his ninth grid slot he would certainly have figured in the fight for fifth and might just, as he contended, have been a challenger for the win had he been able to pressure the Ferraris into using too much fuel. As it was, ninth behind the down-on-power Gugelmin was little reward for an exceptional performance. Like Capelli, he is truly a star of tomorrow. With Senna and Schlesser ironically being linked again, 10th and 11th in the results, 12th fell to an absolutely delighted Julian Bailey, who squeezed past Rene Arnoux's Ligier on lap 47. 'I kept telling myself he'd won seven GPs and that we were fighting for the lead,' he grinned after his best result of the year.

The Anglo-French duo were the sole representatives of their teams, both Jonathan Palmer and Stefan Johansson being among the unlucky non-qualifiers in machines which were simply too slow to make the cut.

For the rest, there were the usual hard luck stories. Bernd Schneider had qualified an excellent 15th in his Zakspeed, with team-mate Piercarlo Ghinzani alongside, and the German had driven his ugly-handling car to a solid 11th behind Gugelmin when

it joined its sister in the pits with engine failure.

On a high stress circuit such as Monza the same reason accounted for Philippe Alliot's Larrousse Lola, whose aerodynamics had caused the Frenchman to struggle all weekend. Alex Caffi's Dallara and Nicola Larini's Osella, Caffi, who was seen in secret talks with Frank Williams just before the race, had fought hard to pass Philippe Streiff's AGS early on, before pulling away to chase Andrea de

Cesaris' Rial. The latter was in some handling trouble after bending a steering arm in a first corner collision with Martini's Minardi.

As Caffi tried a passing manoeuvre on lap 25, however, he and de Cesaris made contact and Andrea spun. As Alex then dropped out with his engine broken, de Cesaris limped round before retiring with underbody damage.

Martini, too, damaged his underfloor with a spin that dropped him from



an early 12th. The Minardis both benefited from revised front suspension, but his engine broke and team-mate Luis Sala dropped back from a dice with Caffi after a spin and then retired with gearbox failure. Larini was sensational with an initial eighth best time on Friday morning, before dropping to 12th in that free session, but his race hopes in the Stievani Osella were dashed with Alfa engine breakage after three laps as he fought for 20th position. Streiff, too was destined for disappointment in the AGS with gear linkage problems, while compatriot Yannick Dalmas had been passed by Bailey when his gearbox jammed in third. As well as Johansson and Palmer, neither Gabriele Tarquini nor Stefano Modena qualified, the Coloni driver experiencing nothing but mechanical and electrical failures. Modena, and Euro Brun team-mate Oscar Larrauri, who failed to pre-qualify, were both at a low ebb in their enthusiasm for

the Er 188s ... If some of the Italian tail enders thus had their frustrations, however, the tifosi only had eyes and cheers for the Ferraris as the Prancing Horse flags were waved with energetic pride and all of Italy rose to salute the achievement. Unbeknown to most, thankfully, was the drama that unfolded afterwards as Berger's car was initially found to accept 151.5 litres of fuel into a tank that should only take 150, but after its capacity was quadruple checked it finally came out at an acceptable 149.650 litres and all was well.

If McLaren had to fall from grace, there was no more fitting beneficiary than Gerhard Berger, and the dust finally settled in the Autodromo nazionale di Monza there was a quiet poignancy in his win for the marque whose founder had died a month before its latest, sorely-needed, success. ■



DRIVERS' WORLD CHAMPIONSHIP

Pos	Driver	Total
1	Ayrton Senna	75
2	Alain Prost	72
3	Gerhard Berger	37
4	Michele Alboreto	22
5	Thierry Boutsen	21
6	Nelson Piquet	16
7	Derek Warwick	12
8	Alessandro Nannini	9
9	Ivan Capelli	8
10	Nigel Mansell	6
11	Eddie Cheever	5
11	Jonathan Palmer	5
11	Mauricio Gugelmin	5
14	Andrea de Cesaris	3
15	Riccardo Patrese	2
16	Pier-Luigi Martini	1
16	Satoru Nakajima	1

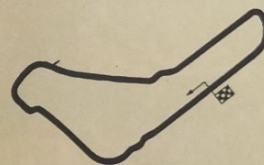
CONSTRUCTORS' WORLD CHAMPIONSHIP

Pos	Team	Total
1	McLaren-Honda	147
2	Ferrari	59
3	Benetton-Ford	30
4	Lotus-Honda	17
4	Arrows-Megatron	17
6	March Judd	13
7	Williams-Judd	8
8	Tyrrell-Ford	5
9	Rial-Ford	3
10	Minardi-Ford	1

1988 ITALIAN FORMULA ONE GRAND PRIX

LENGTH

5.800 km
3.604 miles



FASTEST LAPS

Driver	Time	Lap
Michele Alboreto	1m 29.070s	44
Gerhard Berger	1m 29.113s	47
Ayrton Senna	1m 29.569s	29
Alain Prost	1m 29.642s	27
Alessandro Nannini	1m 30.248s	33
Eddie Cheever	1m 30.452s	42
Derek Warwick	1m 30.504s	43
Ivan Capelli	1m 30.971s	37
Thierry Boutsen	1m 31.543s	34
Riccardo Patrese	1m 31.704s	26
Nelson Piquet	1m 31.803s	11
Mauricio Gugelmin	1m 31.832s	27
Bernd Schneider	1m 32.054s	24
Alex Caffi	1m 32.735s	19
Satoru Nakajima	1m 32.804s	11
Andrea de Cesaris	1m 33.007s	20
Jean Louis Schlesser	1m 33.179s	39
Julian Bailey	1m 33.203s	40
Piercarlo Ghinzani	1m 33.476s	10
Rene Arnoux	1m 33.486s	42
Philippe Alliot	1m 33.581s	28
Philippe Streiff	1m 33.898s	31
Pier Luigi Martini	1m 34.420s	8
Yannick Dalmas	1m 34.723s	15
Luis Sala	1m 35.020s	11
Nicola Larini	1m 38.570s	2

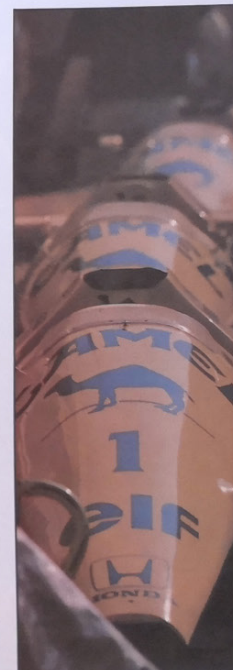
OFFICIAL STARTING GRID

A. SENNA (1m 25.974s) McLaren-Honda MP4/4	(1)	A. PROST (1m 26.277s) McLaren-Honda MP4/4
G. BERGER (1m 26.654s) Ferrari F187/88	(2)	M. ALBORETO (1m 26.988s) Ferrari F187/88
E. CHEEVER (1m 27.680s) Arrows-Megatron A10B	(3)	D. WARWICK (1m 27.815s) Arrows-Megatron A10B
N. PIQUET (1m 28.044s) Lotus-Honda 100T	(4)	T. BOUTSEN (1m 28.870s) Benetton Ford B188
A. NANNINI (1m 28.958s) Benetton-Ford B188	(5)	R. PATRESE (1m 29.435s) Williams-Judd FW12
I. CAPELLI (1m 29.513s) March-Judd 881	(6)	S. NAKAJIMA (1m 29.541s) Lotus Honda 100T
M. GUGELMIN (1m 30.035s) March-Judd 881	(7)	P.L. MARTINI (1m 30.126s) Minardi Ford W188
B. SCHNEIDER (1m 30.161s) Zakspeed 881	(8)	P. GHINZANI (1m 30.475s) Zakspeed 881
N. LARINI (1m 30.481s) Osella-Alfa Romeo FA1J	(9)	A. DE CESARIS (1m 30.560s) Rial-Ford ARC 01
L. SALA (1m 30.698s) Minardi-Ford M188	(10)	P. ALLIOT (1m 30.962s) Lola-Ford LC88
A. CAFFI (1m 30.969s) Dallara Ford 88	(11)	J.L. SCHLESSER (1m 31.548s) Williams-Judd FX12
P. STREIFF (1m 31.676s) AGS-Ford JH23	(12)	R. ARNOUX (1m 32.049s) Ligier Judd J531
Y. DALMAS (1m 32.164s) Lola Ford LC88	(13)	J. BAILEY (1m 32.290s) Tyrrell-Ford 017

RACE CLASSIFICATION AND RETIREMENTS AFTER 51 LAPS

Pos	Driver	Nat	Car	Laps	Time/retirement	Speed (mph/km/h)
1	Gerhard Berger	Aut	Ferrari	51	1h 17m 39.744s	142.002/228.528
2	Michele Alboreto	Ita	Ferrari	51	1h 17m 40.246s	141.987/228.503
3	Eddie Cheever	USA	Arrows Megatron	51	1h 18m 15.276s	140.927/226.788
4	Derek Warwick	GB	Arrows Megatron	51	1h 18m 15.858s	140.910/225.770
5	Ivan Capelli	Ita	March-Judd	51	1h 18m 32.266s	140.419/226.980
6	Thierry Boutsen	Bel	Benetton-Ford	51	1h 18m 38.622s	140.200/225.628
7	Riccardo Patrese	Ita	Williams-Judd	51	1h 18m 54.487s	139.760/224.920
8	Mauricio Gugelmin	Bra	March-Judd	51	1h 19m 12.310s	139.236/224.076
9	Alessandro Nannini	Ita	Benetton-Ford	50		
10	Ayrton Senna	Bra	McLaren-Honda	50		
11	Jean-Louis Schlesser	Fra	Williams-Judd	50		
12	Julian Bailey	GB	Tyrrell-Ford	50		
13	Rene Arnoux	Fra	Ligier-Judd	50		
14	Alain Prost	Fra	McLaren-Honda	34	Engine	
15	Philippe Alliot	Fra	Lola-Ford	33	Engine	
16	Philippe Streiff	Fra	AGS-Ford	31	Gear linkage	
17	Bernd Schneider	Ger	Zakspeed	28	Engine	
18	Andrea de Cesaris	Ita	Rial-Ford	27	Accident damage	
19	Piercarlo Ghinzani	Ita	Zakspeed	25	Engine	
20	Alex Caffi	Ita	Dallara-Ford	24	Engine	
21	Yannick Dalmas	Fra	Lola-Ford	17	Gearbox	
22	Pier-Luigi Martini	Ita	Minardi-Ford	15	Engine	
23	Satoru Nakajima	Jap	Lotus-Honda	14	Engine	
24	Luis Sala	Spa	Minardi-Ford	12	Gearbox	
25	Nelson Piquet	Bra	Lotus-Honda	11	Spin	
26	Nicola Larini	Ita	Osella-Alfa	2	Engine	

Fastest lap: Michele Alboreto, on lap 44, 1m 29.070s, 145.865mph.



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FORMULA ONE

I'm glad Prix Editions only comes out once a quarter; it seems only a few weeks ago that the Editor was pressing me for copy for the last issue and yet here I am scribbling away once again! As you will no doubt vividly remember, I signed off my last article by mentioning that with six races gone I had five precious World Championship Points under my belt, with another ten Grands Prix to go. With four of those having now passed by, we haven't really even looked near to increasing our points tally, though to be fair we hardly expected to.

Having spent two weeks away across the Atlantic it was lovely to get home for ten days or so prior to heading for Paul Ricard for the French Grand Prix. Although I quite enjoy travelling around, I do find that the amount we do certainly makes me appreciate the peace and tranquility of my Hampshire home; in fact I would rather be there for a few days than on holiday anywhere else in the world!

I am involved in a fitness programme for the Cellnet Formula 3 drivers, Martin Donnelly and Damon Hill, and during this period I took

them both up to the London Hospital in Whitechapel to meet some of my old friends in the Cardiology department. They were both wired up to an ECG monitor and at the same time exercised on a treadmill which went faster and faster in order that we could see how their pulse rate and also heartbeat wave form reacted to physical stress. Having completed a six month training programme with me by this stage it was satisfying to see both come through with flying colours — you may even be able to read about the results of this in more detail at a later date.

I don't particularly like the Paul Ricard circuit, finding it rather artificial, and being entirely flat, with a virtual total lack of any greenery surrounding the track itself — instead the borders are a dreary mixture of stone and dirt. Nevertheless it's certainly a very safe circuit now and a challenging one too, for there are some tricky corners both for the driver and the chassis. Whilst our Tyrrell Fords seemed to go particularly well on the tighter street circuits, I was not too optimistic about our chances on this fast circuit and qualifying was to confirm my suspicions. After two bright and sunny days of practice I ended up 23rd on the grid though poor Julian, having his first race at Paul Ricard, just failed to make the cut in 27th position.

The best part of my race was at the start, when I managed to make up four places on the run down to the first corner to emerge 19th at the end of

the first lap — from then on I only got overtaken! We had set the car up in a low downforce configuration to enable me to overtake should I get the opportunity. In fact it worked the opposite way round, for having made my good start the faster cars behind me had one hell of a job to get by and I managed to hold off the considerable quicker Minardi of Martini for 10 laps, eventually pitting for tyres which allowed him by!

The Tyrrell team did a brilliant pit stop, taking just 8 seconds to change all four tyres and such is the width of the Paul Ricard pit road that we are at maximum revs in third gear — some 130 mph — by the time we rejoin the track. Sadly, all this quick pit work was to no avail for just a few laps later the engine lost power and being careful to avoid any damage I immediately switched it off and retired.

Having arrived home at about 10.00 on Sunday evening, I was away again at about 7.45 the next morning, flying my Camel helicopter up to Oulton Park, in order to participate in the first of four days for the Ford Motor Company. Using the super handling Sierra 4x4, Jackie Stewart, Davina Galica and I demonstrate and teach refined fast driving techniques to parties of press who come from all over the world; it probably results in a few more grey hairs for us but without doubt they all go away far better drivers and that's the objective!

Once finished I then flew down to London again to guest in the Wogan Chat Show, which some of you may have seen. The most enjoyable part of that was when it was all over! Of course it was a wonderful opportunity for me but I think the greatest pressure comes from being unsure what the questions are going to be and also appreciating that one's only got very limited time; afterwards you come away with a feeling of wishing you could have had another 10 minutes!

Back to Oulton Park for Tuesday, returning home again that evening before again utilising the helicopter's immense practicality on Wednesday morning when, with the wind behind me, I completed what would have been a four hour drive in just 62 minutes! On Wednesday evening after returning home it was a quick change of clothing before flying down to Brighton to participate in a motorsport promotional evening for Endeavour, the Ford main dealer of the area. It was an excellent evening with an attendance of some 200

guests, a rather tired JP finally landing at home at 11.20 that night.

Thursday and back to Oulton Park again before travelling down to Silverstone to prepare for the weekend's Grand Prix. For a British driver the British Grand Prix is the most important of the year, for one is so eager to perform well and justify the tremendous support we all have from the British public. Silverstone is the fastest Grand Prix circuit in the world and as such presents its own particular demands on drivers and engineers alike.

There are just five corners on the circuit and only one is slow, the 70 mph chicane before the pits straight. The next corner, Copse, is fourth gear at 130 mph, followed by the relatively slow Becketts — 110 mph in third gear. This leads into Hangar Straight, one of the fastest parts of the circuit where we reach 180 mph before dabbing the brakes and down to fourth for the very fast Stowe corner, taking it at 150 mph in fourth gear. Up to fifth on the exit and just a slight feathering of the throttle before going through the quickest corner of the circuit, Club, at 155 mph, leading on to the fastest point of the circuit.

cuit where we achieve nearly 185 mph before braking for the Woodcote chicane again.

The first day's practice and qualifying on Friday was not too successful for me, when amongst other problems I did not achieve a particularly good chassis balance through the corners and this is all important at Silverstone. Fortunately on Saturday I did manage to achieve this all important chassis balance and I made sure that I really wrung the utmost from my second set of tyres to record a time over two seconds faster than my Friday best, which was good enough to elevate me to a very satisfying 17th on the grid. Team-mate Julian did an excellent job to get on the grid in 24th place, although having driven well all weekend he was disappointed to be so far back.

Things were going from strength to strength now, and in the morning warm-up session when we ran full tanks for the first time, I recorded an impressive 7th fastest time though to be fair the weather conditions were somewhat flattering! The session began dry and mindful of imminent rain I went hard immediately in order to get an idea of the full tanks balance which actually was very good — I was only sorry that the race was not to be held in dry conditions.

As it happened it wouldn't have mattered whether it was dry or, as was the case, dreadfully wet. On the final warm-up lap for the race my engine began to misfire and run on six or seven cylinders. The mechanics could do nothing so I went out again for a few tentative laps before calling it a day when it was clear that it was deteriorating rapidly.

It was a great pity that the weather was so awful throughout the Sunday, for so many people had put in so much effort, whether drivers, teams, sponsors, spectators etc, and it just seemed a great shame that what should have been a fantastic day's entertainment ended up being so handicapped by the miserable conditions.

Much to my relief, despite the weather, my Camel helicopter was able to keep pretty much to its schedule for ferrying the Camel VIPs in and out all day. As part of my arrangement with Camel, they have use of the helicopter with a professional pilot for British Grand Prix day and I always feel quite a responsibility — should anything go wrong with the aircraft during the day I dread to think of the chaos that would be caused.



On occasion, Grand Prix racing can be a frustrating and money wasting business. Consider the Hockenheim FOCA test. Prior to the German Grand Prix, the Tyrrell team, along with perhaps another seven or eight Formula One teams, made the long trek down to Hockenheim, each with at least one transporter, perhaps ten mechanics and one or two cars. Obviously the intention was to participate in two days valuable testing in preparation for the Grand Prix. In practice it rained frequently enough to render the track 'wet' for all but a total of an hour or so during the two days, with the result that little was gained by anyone except another few thousand pounds worth of bills!

Moving onto the Grand Prix weekend itself, the Friday morning practice didn't get off to a very good start for me. On my 12th lap, trying a bit too hard, I clipped the left-hand kerb at one of the chicanes which launched the car into the air sufficiently to be across the right-hand side before I really regained control.

I still didn't think it would be a problem, though the right front wheel just clipped the end of a stack of tyres on the right-hand apex of the chicane. At somewhere around 90 mph my right front wheel snagged on the tyres and was torn back instantly, complete with suspension, to virtually join me in the cockpit and obliterate my view ahead. I slewed off the track to a halt, really quite stunned by what had happened. Anyway that was clearly the end of that car and I then had an epic run back through a mile and a half of forest before reaching the pits to take the spare out for a couple of laps before the practice session finished.

The Hockenheim circuit is certainly very individual in character; basically three miles of straights are interrupted by three chicanes with the remaining $\frac{3}{4}$ of a mile or so being comprised of the tight stadium section. With speeds of around 200 mph even for the normally aspirated cars, aerodynamic efficiency in low downforce trim is of paramount importance which made the March and Benetton's particularly effective.

We know that our car is not at its best in such a condition and after two days of working away at the set-up, a really good lap by me in final qualifying was only good enough for 24th on the grid, whilst my best time from the Friday session would have got me on the grid but only in last place. Such is the competitiveness of Formula One that although Julian was

only point 6 of a second slower than me this relegated him to 29th place and understandably a very disappointed non-qualifier.

For the first time in my Grand Prix career we had a really wet/dry dilemma facing us before the start, as the uncertain weather prevailed. There is virtually no overlap between the conditions which are suitable for slicks or wets; a track which is really too dry for wets will probably be only just dry enough to make slicks a viable proposition.

Of course, apart from judging the track conditions at the start of the race, the other dilemma is try-

lem trying to get by — he had so much extra straight line speed with his turbo engine. Time and time again I would come alongside him, having exited one of the chicanes substantially faster, only to have him haul back the difference and get in front again by the time we came to the next braking area. All very frustrating!

Things were getting a bit desperate after I had been stuck behind Ghinzani for five laps and I tried a late braking manoeuvre at



DOMINIQUE LEROI

the Sachs hair-pin on the stadium section. It didn't work! With wheels locked I went straight on, off the track and looked very much like coming to rest in undignified fashion against the armco. However my rally-cross driving experience paid off, and I managed to unlock the wheels, ease the car round just feet from the armco and scramble back on the track!

I quickly made up the 8 seconds that I had lost and within another three laps managed to get by Ghinzani and then Dalmás, with René Arnoux now next ahead. Fortunately he did not pose the problem that I thought he might and with 20 laps to go in the race I had 20 seconds to make up on Bernd Schneider in the Zakspeed. I really quite enjoyed reeling him in to move in front and into an eventual 11th place four laps from the end.

I took the opportunity during the ten days leading up to Hungary to complete my flying Instrument Rating. It is one thing to fly with visual reference to the ground, known as VFR, but it is something quite different to be able to fly safely in cloud,

when one is relying solely on instruments.

There are two real problems, the first is being able to maintain the plane under control, which basically means staying the right way up, and the second is knowing where you are and how to get to wherever you're going, which means using the various radio navigation beacons and systems that are available. Anyway I was delighted to pass this particular exam for apart from anything else with the weather we've been having lately I reckon it will be pretty useful on the race circuit as well!

I enjoyed the Hungarian Grand Prix last year; after qualifying 15th I went on to win the normally aspirated class and finished 7th overall. I had hopes therefore of being able to be more competitive at the tight, twisty Hungaroring circuit again this year, the nature of which I felt would suit the Tyrrell Ford rather better than the faster circuits we had been on more recently.

The first Friday morning practice was notable for — you've guessed it — heavy rain once again and also for the excellent performance of my team-mate Julian Bailey. Suffice to

did so rapidly. In these conditions it is important to get a clear lap in at the end of the session and, although I wasn't particularly successful, my final lap was at least good enough for 18th place on the grid, with Julian 25th. At least now if it rained the following day we would both be in the race.

Further work on Saturday morning developing the set-up was carried out in now hot 28 degree sunny conditions. By the end of the morning practice I was reasonably optimistic that with a few further changes to the set-up I should be able to get comfortable on the grid.

Usually you get a pretty good idea as to whether you're going to struggle to make the grid or not in the first couple of laps you do, when you can see just how hard you're having to work for a given lap time. Normally in qualifying I do a 'run' of perhaps four or five laps before pitting, and on my first run my third lap was over a second and a half faster than my



LUKAS GORYS

previous day's best and I felt pretty sure then that qualifying wouldn't be a problem. Pitting for a few small adjustments, I went out once again shaving another seven tenths off before putting on my second set of tyres.

With all its corners and short length, traffic really is a big problem for everybody at the Hungaroring and I cruised around for four laps before I felt the track ahead was clear enough to have a real final last go. It looked good; my interval times round the first two-thirds of the track were half

a second faster than ever before and then ... traffic. All that precious time that I'd made up was then negated by losing half a second on the last third to give me a lap time barely better than my previous best. Still, at least it was on the grid in 21st place.

The Sunday morning warm-up was fairly uneventful, and I lined up on he grid feeling very well prepared with a new type of solution in my drink bottle, visor covered with three rip-offs and generally optimistic of a hard but eventually fruitful race. As the lights turned to green I made an excellent initial start to move alongside Nakajima ahead of me, before his Honda turbo power pulled him clear, leaving me to tuck in behind.

Drama number one came at the first corner, when Streiff in the AGS cut hard across in front of me, hitting my left front wheel and throwing me into a half spin, with the front wheels riding up over the inside kerb. For a fleeting moment I thought I was about to crash into retirement, but managed to get it back on to the circuit though not before I'd lost five places to put me at the back of the field.

For three unexciting laps that's where I stayed, comfortably following the Ligier of Arnoux and working out just how I was going to get by him and start moving up the field. Then suddenly to my total surprise the engine briefly misfired before cutting out completely. I did my normal trick of flicking the switches up and down in a vain hope that it would do something before pulling off the circuit into retirement, the actual problem being a broken rotor arm in the distributor.

Although the recent events have not been too successful for us things are definitely looking very bright at Tyrrell at the moment. The engineering team is being heavily strengthened with the exciting arrival of Harvey Postlethwaite whilst in his wake also comes the former Ferrari aerodynamicist, Jean-Claude Migeot.

The new factory is also coming along well and there is very much a feeling of optimism and inspiration about the team, with the knowledge that next season we should be able to combine our existing — normally — excellent reliability record and slick organisation with a really competitive chassis.

Meanwhile we shall all, of course, be doing the best job with the existing car, continuing the learning curve in preparation for next year but don't expect any real quantum leaps forward until 1989! ■

BELGIAN

GRAND PRIX



LUKAS GORVY

'I think Ayrton has won it this year ...'

Alain Prost is as gracious in defeat as in victory, the true professional and the true sportsman. If his words surprised his audience in Belgium, after Senna had taken his seventh GP win of the season and thereby equalled the record held by Prost himself and Jim Clark, the Frenchman was being nothing but realistic.



BY DAVID TREMAYNE



LUKAS GORVY

'I think it's over. My Championship chances? None!'

'I think Ayrton has won it this year ...' Alain Prost is as gracious in defeat as in victory, the true professional and the true sportsman. If his words surprised his audience in Belgium, after Senna had taken his seventh GP win of the season and thereby equalled the record held by Prost himself and Jim Clark, the Frenchman was being nothing but realistic.

Bitterly disappointed not to have taken the Hungarian race, Prost came to Spa only too aware of the need to win. It's a track he loves, one on which he has excelled in the past. If he was going to stem Senna's relentless progress towards the crown, it would have to be here. Through the wooded sweeps of the haunting Hautes Fagnes region he would be in his element, away from the Mickey Mouse circuits he so detests, and he had to capitalise on that.

In qualifying, predictably, it had been Ayrton who laid most on the line with a 1m 53.718s lap which redressed Friday morning's free practice balance when Prost had been fastest. Alain was close behind in that first official session, on 1m 54.128s, troubled by an engine which died momentarily on downchanges and less than optimum aerodynamic settings, but rain on Saturday effectively cancelled any chance either had of improving.

It was Senna who was half a second quicker in Sunday morning's warm-up, and thereafter Prost made a crucial setting error that would cost him dear in race conditions.

'I started with less wing to save fuel, which turned out to be unnecessary and hurt me a lot when the track became oily. I should have run the same set-up as he did ...'

It was Prost who took the start, however. 'It was more slippery my side of the grid and I got wheelspin in first and second,' said Ayrton. 'I was surprised, and though I might have been able to fight Alain for the first corner, we had agreed beforehand not to risk ourselves in that way'.

Prost it thus was who led up Eau Rouge, and his supporters cheered, but Ayrton was superbly placed to tow alongside up to the first chicane, and that was it. McLaren 12 slid inside McLaren 11 and after that it was simply a matter of the Brazilian avoiding mistakes and preserving his car. As is customary, he did that to perfection to lead Alain home by 30.470s



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LUKAS GORVY



LUKAS GORVY

43 laps later. It was another exceptional display that Prost was the first to acknowledge. After 15 laps he knew he'd set the car wrongly, and 20 laps from the end he began easing back, settling for second.

'Ayrton is too difficult to beat,' he admitted with disarming candour. 'Today he did a fantastic job.'

The statement was an accurate summary of the entire Honda Marlboro McLaren operation throughout the weekend, but where is the surprise in that? Spa, as ever, saw only Ferrari offer any serious element of competition, the F187/88s ideally suited to the track but as ever down on power.

'The chassis is fine, but we need more punch', reiterated Gerhard Berger for the umpteenth time since Rio. As ever, the Austrian gave his all to qualify third, with team-mate Michele Alboreto alongside a good second adrift, and in the race both red cars looked likely to dog the McLarens from a respectful distance in their first race since the death of their creator. However, Berger's chassis had different ideas and he pitted from third place on lap three when his engine management system began to malfunction. He went out again but the problem defied three changes of the electronic black box and he was out on lap 12 after setting fastest lap two hours earlier.

Michele seemed set to inherit his position, and to provide an answer to the question everyone was asking: Would the Ferrari's be more economical with new, lower-revving engines which had been specially evolved for the race? The outcome was to remain a mystery.

The Italian was driving smoothly, albeit rather too fast for a man who was by lap 34 in no position to challenge for second, yet under no threat



AUTOFOTO

for his third place, and a lap later the Ferrari slammed past billowing oil smoke. It did not appear again. 'They tell me to say electric, but you saw the smoke, yes?' he disclosed with the mischievous glee of a man who knew he would be free of the team in another five races, and was counting the days. Ferrari's loss, as we have seen earlier in the year, was Benetton's gain, and once more the colourful B188s proved the strongest normally aspi-



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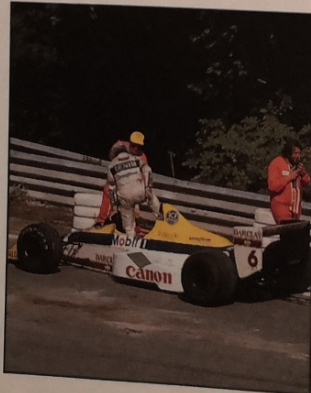


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rated threat. Riccardo Patrese had upstaged them in qualifying, taking his Canon Williams to fifth grid slot, but Thierry Boutsen and Sandro Nannini lined up sixth and seventh and the Belgian got the jump on both as they left the line. While Nannini and Patrese eyed one another cautiously into La Source, a forceful Satoru Nakajima thrust his way by to snatch an early sixth for Camel Team Lotus.

Mindful that wife Patricia had excelled herself earlier in the day with second place in the Alfa 164 Celebrity race, the local hero quickly detached himself from any potential challengers and simply kept the pedal to the metal to the end, never likely to challenge the McLarens or Alboreto, but well clear of his rivals. When Michele smoked out, Boutsen once again became the only non-McLaren driver on rostrum...

Nannini had a less easy time, as he became embroiled in the classic normally aspirated duel with a turbo car. Nakajima was quicker on to the straights, Sandro was faster in the corners. Then Nelson Piquet dragged his Lotus past the Arrows of Eddie Cheever and Derek Warwick by lap five to join the chase. Yet further aerodynamic revisions to the Lotus 100Ts had brought a glimmer of promise testing at Monza and in qualifying at Spa once serious transmission



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problems had been ironed out, even though it was confirmed the previous week that designer Gerard Ducarouge will quit at the end of the year. Nakajima looked impressive for one on a fast track, and was doing a fine job in fifth place by lap 17, when the team leader finally asserted himself, having slipped by Nannini seven laps earlier.

The Brazilian, however, was having serious brake problems which resulted in a grassy moment which blocked his radiators, and as his handling deteriorated Nannini's attentions became increasingly urgent. Finally he squeezed ahead into La Source, narrowly fending off a counter-attack up to Eau Rouge. By then Nakajima had gone with a serious misfire which prompted Honda to radio its other driver to revise their fuel settings as a precaution, and the Leyton House March had hit a rhythm that brought them into contention.

An engine explosion and a puncture on his second set of Goodyears blighted Mauricio Gugelmin and Ivan Capelli respectively and kept them further down the grid than they should have been, and though the Williams had improved after aerodynamic revisions tried in Mon-

testing, the Marches were faster. A race trim by a second. It was initially to prove little help in the early stages, however, as they had to fight the way through.

Two days before the event Nigel Mansell had informed Frank Williams he wouldn't be fit enough to race and was admitted to hospital on the Friday night for tests on a secondary virus he'd picked up after his Hungarian chickenpox. As he had tested the reactive-suspended FW12 in the preceding weeks, Martin Brundle was a logical stand-in, and impressed with the 12th fastest dry time in qualifying and fastest time in Saturday's rain-

However, from the second lap his ill-balanced Williams was hurting its tyres and he won little thanks from Capelli and Gugelmin as they struggled to pass the weaving FW12. By lap nine Capelli was frustrated enough to let Gugelmin through for a go, the Brazilian having an aerodynamic set-up that conferred superior straightline speed. 'I figured if Mauricio found a way through, I'd follow him!' grinned Ivan.

Two laps later Gugelmin did just that, and Capelli followed suit next time round. As Brundle dropped away, Patrese was in the thick of a fight with Cheever and Warwick for eighth place, and relentlessly the Marches began to close in as Gugelmin set the fastest aspirated time on lap 14. Nakajima's demise was helpful, and then Patrese quit at the Bus Stop chicane when his Judd made a rude noise, shortly after Capelli had vaulted past his team-mate and the Williams. In clean air the Italian then made short work of Cheever as the USF + G Arrows driver ran into worsening oversteer as his rear tyres began to lose their edge. Capelli was flying in his best ever F1 race. Warwick succumbed on lap 36, his Arrows giving a measly 2.2-bar boost no matter what he did with the cockpit control, and by then Piquet's fourth place looked decidedly precarious as Nannini's pressure was about to bear fruit. As the Lotus repeatedly locked its brakes into La Source, for which drivers were braking from 150mph across the start/finish line, Capelli was its turquoise shadow.

Already he had passed Patrese on the outside of Fagnes, the corner that last year claimed Senna and Mansell so controversially. Cheever had fallen before Stavelot and Warwick just after it, and now he savoured the feelings again as he pounced on the World Champion at the same spot on lap 41. His fifth place was consolation to March for losing Gugelmin on lap 30. His clutch had gone at the start, given him gearchange problems twice at the Bus Stop, and sent him over the entry kerb, damaging the underbody. When that later caused a spin at Stavelot, he was unable to restart without the clutch.

Recent father Piquet was left to fend off Warwick, who'd shared a Saturday birthday with Berger and had celebrated with a stomach upset. By the flag Delboy was a mere 1.7 seconds adrift of the Lotus, but he wasn't quite to get the birthday present of another championship point. The troubled Cheever was eighth, baulked after being lapped by Senna as the Brazilian eased off. Eddie had Brundle

right on his tail as the Englishman made an auspicious comeback to F1, 'but the last thing I wanted was to pass Ayrton again and have to do another lap as my fuel was marginal, so I had to "ask" Ayrton to speed up a bit so Martin didn't squeeze by me!' Once he'd disposed of Philippe Alliot's Larrousse-Calmels Lola on lap four, Alex Caffi again drove with impressive aplomb to bring Beppe Lucchini's Dallara home 10th, while Alliot maintained the upper hand over a challenging Philippe Streiff throughout

even though his compatriot got close on lap 13. By then Alliot's rear dampers were overheating and his handling deteriorated, but Streiff lacked the straightline punch Caffi and Alliot had with their latest specification Cosworths and overheated his rear tyres a little, dropping away to an eventual 12th. That at least was some consolation to AGS, which lost designer Christian Vanderpleyn, engineer Michael Costa and team manager Frederic Dhainaut to Enzo Coloni's team in time for the Italian



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GP at Monza, and also lost sponsor Bouygues in the weeks after Hungary. In the Roberto Ori-designed Coloni FC188, Gabriele Tarquini looked set for a strong finish until his steering rack twice worked loose and obliged pit stops for repairs; he ran ahead of Stefan Johansson's Ligier and the challenging Jonathan Palmer in the sole Tyrrell to qualify, but finished behind both in the results even though neither was running by the end. By half distance Palmer's remorseless determination had pulled him right on to Johansson's tail, but then our columnist had to drop back to preserve overheating rear tyres and it wasn't until lap 39 that he was close enough to push the Swede at La Source.

'Going up Eau Rouge Stefan suddenly slowed,' said Jonathan (his crown-wheel and pinion had broken), 'and I just had time to think 'Great, I deserved that after all that effort' when my throttle cable broke ...' Ironically, he was classified behind Johansson as the result was taken on the previous lap's running order. Johansson's team-mate Rene Arnoux distinguished himself by qualifying an easy 17th, and then by taking off Andrea de Cesaris' Rial on the third lap just before Stavelot, to the Italian's considerable chagrin. 'It was just stupid. Totally unnecessary,' he fumed, obviously forgetting some of

his own past performances ... Right at the back two scrapes enlivened a relatively dull race as Zakspeed teamsters Bernd Schneider and Piercarlo Ghinzani battled over 19th place until the Italian split an oil line, and once the pressure was off, the German's gearbox jammed in third. Further aft, Nicola Larini fought valiantly against a faulty pop-off valve on the track which claimed his racing uncle's life some years back, to sit right on a troubled Yannick Dalmas' tail until the Lola's Ford engine exploded after nine laps. Nicola himself lasted little longer, however, when the Osella ate its fuel pump.

Neither Minardi nor Euro Brun qualified, getting caught out by Saturday's rain, while Julian Bailey was lucky to survive a 170mph off at Blanchimont on Friday morning after the rear suspension broke on his Tyrrell. He, too, missed the cut.

Thus Ayrton Senna took his seventh win of the year and his 13th overall, from his 25th pole position, and Alain Prost effectively conceded defeat. For Honda Marlboro McLaren the result was the same whichever way things panned out, the team beating its own Constructors' Championship points record of 143.5 with 147, and comfortably putting the title beyond its rivals' reach. Ferrari, in second place, was only 103 points adrift ... ■



DRIVERS' WORLD CHAMPIONSHIP

Pos	Driver	Total
1	Ayrton Senna	75
2	Alain Prost	72
3	Gerhard Berger	28
4	Thierry Boutsen	28
5	Michele Alboreto	19
5	Nelson Piquet	19
7	Alessandro Nannini	12
7	Derek Warwick	12
9	Nigel Mansell	10
9	Ivan Capelli	10
11	Jonathan Palmer	8
11	Mauricio Gugelmin	8
13	Andrea de Cesaris	5
14	Riccardo Patrese	4
15	Pier-Luigi Martini	3
15	Eddie Cheever	3
15	Satoru Nakajima	3

CONSTRUCTORS' WORLD CHAMPIONSHIP

Pos	Team	Total
1	McLaren-Honda	147
2	Ferrari	103
3	Benetton-Ford	57
4	Lotus-Honda	40
5	March-Judd	30
6	Arrows-Megatron	28
7	Williams-Judd	27
8	Tyrrell-Ford	10
9	Rial-Ford	5
10	Minardi-Ford	3

1988 BELGIAN FORMULA ONE GRAND PRIX

LENGTH

6.940 km

4.312 miles



FASTEST LAPS

Driver	Time	Lap
Gerhard Berger	2m 00.772s	10
Ayrton Senna	2m 01.061s	18
Alain Prost	2m 01.702s	18
Michele Alboreto	2m 01.924s	34
Mauricio Gugelmin	2m 02.255s	14
Alessandro Nannini	2m 02.298s	39
Ivan Capelli	2m 02.302s	14
Nelson Piquet	2m 02.598s	23
Thierry Boutsen	2m 02.849s	21
Derek Warwick	2m 03.002s	24
Riccardo Patrese	2m 03.220s	19
Satoru Nakajima	2m 03.448s	20
Eddie Cheever	2m 03.653s	24
Martin Brundle	2m 04.088s	9
Alex Caffi	2m 04.475s	24
Gabriele Tarquini	2m 04.589s	36
Philippe Streiff	2m 05.028s	23
Philippe Alliot	2m 05.083s	37
Jonathan Palmer	2m 05.525s	21
Stefan Johansson	2m 05.681s	39
Nicola Larini	2m 06.514s	12
Piercarlo Ghinzani	2m 06.653s	14
Bernd Schneider	2m 06.810s	19
Yannick Dalmas	2m 07.497s	7
Rene Arnoux	2m 07.978s	2
Andrea de Cesaris	2m 08.821s	2

OFFICIAL STARTING GRID

A. PROST (1m 54.128s) McLaren-Honda MP4/4	1	A. SENNA (1m 53.718s) McLaren-Honda MP4/4
M. ALBORETO (1m 55.665s) Ferrari F187/88C	2	G. BERGER (1m 54.581s) Ferrari F187/88C
T. BOUTSEN (1m 57.455s) Benetton-Ford B188	3	R. PATRESE (1m 57.138s) Williams-Judd FW12
S. NAKAJIMA (1m 57.618s) Lotus-Honda 100T	4	A. NANNINI (1m 57.535s) Benetton-Ford B188
D. WARWICK (1m 57.925s) Arrows-Megatron A10B	5	N. PIQUET (1m 57.821s) Lotus-Honda 100T
M. BRUNDLE (1m 58.206s) Williams-Judd FW12	6	E. CHEEVER (1m 57.980s) Arrows-Megatron A10B
I. CAPELLI (1m 59.439s) March-Judd 881	7	M. GUGELMIN (1m 58.361s) March-Judd 881
P. ALLIOT (1m 59.906s) AGS-Ford JH23	8	A. CAFFI (1m 59.776s) Dallara-Ford Bms 188
P. STREIFF (2m 00.410s) AGS-Ford JH23	9	R. ARNOUX (2m 00.037s) Ligier-Judd JS31
S. JOHANSSON (2m 00.857s) Ligier-Judd JS31	10	A. DE CESARIS (2m 00.521s) Rial-Ford ARC 01
G. TARQUINI (2m 01.359s) Coloni FC188	11	J. PALMER (2m 01.078s) Tyrrell 017
P. GHINZANI (2m 01.899s) Zakspeed 881	12	Y. DALMAS (2m 01.467s) Lola-Ford LC88
N. LARINI (2m 02.029s) Osella-Alfa Romeo FA1J	13	B. SCHNEIDER (2m 01.938s) Zakspeed 881

RACE CLASSIFICATION AND RETIREMENTS AFTER 34 LAPS

Pos	Driver	Nat	Car	Laps	Time/retirement	Speed (mph/km/h)
1	Ayrton Senna	Bra	McLaren-Honda	43	1h 28m 00.549s	126.417/203.447
2	Alain Prost	Fra	McLaren-Honda	43	1h 28m 31.019s	125.692/202.260
3	Thierry Boutsen	Bel	Benetton-Ford	43	1h 29m 00.230s	125.004/201.173
4	Alessandro Nannini	Ita	Benetton-Ford	43	1h 29m 09.143s	124.796/200.838
5	Ivan Capelli	Ita	March-Judd	43	1h 29m 16.317s	124.629/200.569
6	Nelson Piquet	Bra	Lotus-Honda	43	1h 29m 24.177s	124.448/200.275
7	Derek Warwick	GB	Arrows-Megatron	43	1h 29m 25.904s	124.407/200.211
8	Eddie Cheever	USA	Arrows-Megatron	42		
9	Martin Brundle	GB	Williams-Judd	42		
10	Alex Caffi	Ita	Dallara-Ford	42		
11	Philippe Alliot	Fra	Lola-Ford	42		
12	Philippe Streiff	Fra	AGS-Ford	42		
13	Stefan Johansson	Swe	Ligier-Judd	39	(Transmission)	
14	Jonathan Palmer	GB	Tyrrell-Ford	39	(Throttle cable)	
15	Bernd Schneider	Ger	Zakspeed	38	(Gearbox)	
16	Gabriele Tarquini	Ita	Coloni-Ford	36		
17	Michele Alboreto	Ita	Ferrari	35	Engine	
18	Riccardo Patrese	Ita	Williams-Judd	30	Engine	
19	Mauricio Gugelmin	Bra	March-Judd	29	Spin, no clutch to restart	
20	Piercarlo Ghinzani	Ita	Zakspeed	25	Oil line	
21	Satoru Nakajima	Jap	Lotus-Honda	22	Engine	
22	Nicola Larini	Ita	Osella-Alfa	14	Fuel pump	
23	Gerhard Berger	Aut	Ferrari	11	Engine management system	
24	Yannick Dalmas	Fra	Lola-Ford	9	Engine	
25	Andrea de Cesaris	Ita	Rial-Ford	2	Collision with Arnoux	
26	Rene Arnoux	Fra	Ligier-Judd	2	Collision with de Cesaris	

Fastest lap: Gerhard Berger, on lap 10, 2m 00.772s, 128.544 mph.



LUKAS GORTS



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OPEN FOR POWER

WYNN'S INJECTOR CLEANER

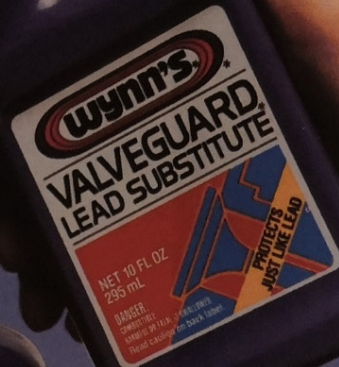
PERFORMANCE
PLUS
BIG SAVINGS

- ★ Cleans injectors on petrol and diesel engines
- ★ Removes condensation water in fuel tank
- ★ Prevents rust and corrosion

Simply add Wynn's Injector Cleaner to a full tank every 10,000km. This combats the build-up of deposits in the fuel system. More, it safely cleanses the system.

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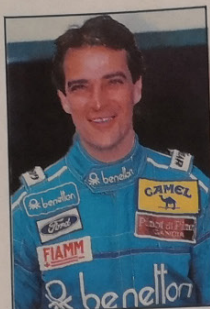
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allessandro nannini



getting serious about f.1

ZOOM



who

is the most improved driver of 1988? Ask that question to anyone in the pressroom at a World Championship GP this year and you'll get the same answer: Alessandro Nannini. In the first ten races of the season his best result has been a third place (in the rain, at Silverstone), but in qualifying he has been faster than his Benetton teammate Thierry Boutsen on six occasions. Which does he regard as his best race of the season? 'It was Mexico ... because I gave 100 per cent, and I didn't make any mistakes. You can make mistakes and finish 3rd, and sometimes you can finish 6th without any mistakes. For me, sixth place without errors is better.'

When Alessandro took the giant step up from Italian national racing to Formula 2 racing in 1982, he didn't even know the names of the drivers against whom he would be racing. He was 23 years old and he had spent the previous season having a good time, sponsored by a Fiat dealer from his home town of Siena, winning the Formula Fiat Abarth championship. His father, who owns a string of prosperous bakeries and pastry shops in the picturesque northern Italian city of Siena, always expected him to join the family business. But Alessandro had other ideas. Although



it would take a few years for them to come to fruition, now he is recognised as a top driving talent. Poppa and the bakeries have to get on without him.

To make the move to F2 he signed with the Minardi team, leap-frogging the normal route through Formula 1, which almost all of Europe's top drivers have taken. As he has admitted, racing was no more than fun for him: something he enjoyed and did well. It was certainly not the image that a go-getting future F1 star would want to encourage. When times were bad, as they often were, he even found himself driving the Minardi truck all the way back home to Faenza.

But Sandro had talent. Although it didn't produce any worthwhile results in F2 at Minardi, it got him a place in F1 when the team — with the sort of Italian logic which makes one F2 victory sound like a landslide election victory — foolishly promoted itself to F1. Driving Minardi's notoriously unreliable home-grown turbo cars in 1986 and 1987, he failed to score a single world championship point.

Nevertheless, the ability was clearly there — and Prix Editions spotted it in issue number 1. Yet for non-Italians he was obscured by Alessandro's own apparent lack of ambition and a painful lack of English.

Nowadays, with Benetton-Ford Sandro's lackadaisical image is a thing of the past. Peter Collins, Benetton's Australian-born team manager, insists that his Italian discovery has always been potential world championship material. And with Thierry Boutsen moving on to Williams-Renault in 1989, Benetton will be putting its faith in Sandro to lead the team next season. What does Collins see as the Nannini charm?

'Firstly, because he's a happy-go-lucky, smiling bloke — or apparently so — it does seem that maybe he's not dedicated,' Collins will admit. 'He doesn't come out aggressive, he's not like Nigel Mansell and certainly not like Ayrton (Senna), who gives the impression that he desperately wants to be world champion. But because it's not obvious that Alessandro does that, it doesn't mean he doesn't want it.'

Collins points out that Sandro presently finds himself in that most difficult of positions: trying

to learn his craft in the spotlight of international publicity. 'He really has had virtually no race experience, because the (Minardi) cars never ran long enough for him to race. All he got from those two years was enough driving experience just to know which way the circuits went and a bit of power familiarity.'

'Now, he's in a no-win situation because I tell him to take it easy, keep calm, don't get sucked into situations, don't panic and don't be impatient. He knows I don't want to see him end up clouting someone trying to get past too quickly. So he then gets into a situation where he probably takes longer than a more experienced person would to get by somebody — and everybody says, 'Oh, he's making a hash of it, he's not passing them quickly enough.' Well, I'm perfectly happy with that to some degree, because I don't want a bent car — and I want him to finish the race.'

'Then when he tries hard, and makes a mistake like he has done on a couple of occasions this year, he's in trouble again. 'Look what he's done,' some one like James Hunt will say on TV: 'he's a fool, he pushed too hard'. OK, at the end of the day he may have made two mistakes. But it's bad luck on him, really. After all, he's arrived in a competitive position, in focus with the viewing audience, while he's still doing his learning.'

The lack of English is no longer a handicap. Some surprisingly dedicated and intense study early this year has given him a lot of vocabulary and some passable grammar. But the most important lesson he's learned is to get himself taken seriously as a driver. As Collins says, 'He's now made the conscious attitude change from being 'Well, it's nice to be a Grand Prix driver and I do ten laps and I don't need to go any further,' to, now, 'I'm serious and I want to get somewhere.' Although fiercely competitive now, Nannini has no intention of giving up his ten-a-day cigarette habit and, in fact, enjoys his sponsor's product — Camel.

Ten years ago, the thought of driving any F1 car, let alone scoring a world



championship point, was one of the last things on a teenage Alessandro Nannini's mind. At 18 he had four years of motocross racing and several broken limbs behind him. Having obtained that most unlikely of competition cars, a Citroen Dyane, he was about to make his four wheel debut in a local rally.

The Dyane quickly gave way to a Lancia Fulvia HF. Two wins brought him to the attention of Lancia's rally boss, Cesare Fiorio, and soon he was in a Stratos. So far so good. Alessandro's father, a prosperous baker in the mediaeval city of Siena, had helped financially with the bikes, and he was not too worried about the dangers of rallying. But the boy was soon to switch to circuit racing in the national Formula Abarth series. 'When I began with the circuit (racing), my father was very angry with me,' says Alessandro. 'For two or three years we did not speak too much ...'

When he took 5th place in his very first F2 race, at Silverstone, the Minardi gamble seemed to have paid off. By the end of the year he had also claimed a 2nd place, at Misano,



and scored sufficient points to be classified 10th in the European championship. Over the next two years, however, his F2 career virtually stagnated as Minardi struggled with lack of budget and unreliable engines. Luckily, he has another string to his bow. Lancia's Florio had remembered the one-time rallyman and had offered a few drives with the Lancia Group C sports car team. Probably his most satisfying race with Lancia was to be at Le Mans in 1984, where he and French veteran Bob Wollek started from pole position and convincingly led the race until the car's Achilles' heel — its frail gearbox — delayed them. Nevertheless, Alessandro collected a new lap record and some kind words from veteran Wollek, who reported that Alessandro, unlike 'certain people' (Wollek had Riccardo Patrese in mind), invariably handed back the car in good shape. For 1985, knowing his young driver's potential, Giancarlo Minardi wanted Alessandro in the new F1 team which he was setting up. But FISA decreed that his F2 results did not justify the issue of a Superlicence to him. Instead, Pierluigi Martini got the drive on the strength of some F3 results. A fourth season with Lancia brought better results for Alessandro: the FISA licence was approved and he was free to join Minardi in 1986. Money remained a stumbling block. Without a contribution from its new driver, Minardi could not compete. 'I paid 300 million lire (approx. one hundred and thirty-five thousand pounds sterling) with personal sponsors' money ... Simod, and some others. I had not all the budget, so I used the money from Lancia, because I raced also with Lancia, and half of that money went to Minardi in 1986. I didn't really like that.' Before the end of the first year with Minardi, and in spite of the constant retirements, Alessandro's talent had

become self-evident. He was offered test drives by three other F1 teams and received a firm offer for 1987 from Benetton. But he would have had to buy himself out of his contract, which stipulated a second year with Minardi. Instead, he accepted promotion to number one in the team. 'With Minardi I had good feelings, with the mechanics and the team manager,' he recalls, 'but the team always had problems with money and the car. To do better in the races I knew I had to go to another team. Switching to Benetton has been a pleasant surprise, especially the welcome he's had from his mechanics. The constant testing has been hard work, and much of it has been a rather lonely business because he likes his car set up differently from team mate Boutsen's. Because of the language barrier, debriefing sessions have also been difficult for him.'

It has been a tough experience in other ways too. 'I had some physical problems this year with my neck muscles, because I never had so much downforce when I was with Minardi. In the first few races, especially in Brazil and again in Mexico, it was very uncomfortable. I also had problems with my foot, in the last ten laps of some races. I don't understand yet exactly what is wrong, but I have an extra layer of leather on my shoe, to give less force from the brakes.' With his wife Paola, Alessandro has made a small apartment in Monaco his home for the past 18 months. 'It's good for the privacy, and also because I have sponsors there — and also the tax,' he laughs. From time to time they see other drivers socially. He mentions Michele Alboreto and Riccardo Patrese, hastily adding that he sometimes sees Thierry and Patricia Boutsen for dinner.

Although he is a good skier and a capable tennis player, most of the exercise he takes is the five or six kilometres which he jogs every couple of days. He regularly visits the paternal home in Siena, where he keeps a Fantic 240 Trials bike for winter outings into the Tuscan countryside. His sister Gianna is one of Italy's most popular rock singers, with a career that earns her far more money and fame than Alessandro can command at the moment. A brother now lives in Switzerland, where he has a prosperous business selling Gucci products to tourists. Strangely, therefore, of the three Nannini children, Alessandro is the one most likely to take over the bakery. First, though, he has some unfinished business on the racing circuits of the world. ■



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THE ART'S IN THE SCIENCE

HUNGARIAN GRAND PRIX



With Senna dictating the pace, and Boutsen attacking him while simultaneously fending off Prost, the race was electric, but mile by mile Prost was sizing up the Belgian and at the end of lap 47 he was close enough to the Benetton's gearbox going past the pits to slipstream ahead into Turn One to begin lap 48.



BY DAVID TREMAYNE



Senna, meanwhile, was leading, and Prost's major chance lay in his team-mate's tactics. Hungary could have developed into a fuel marginal race for McLaren, and its twists could also have destroyed the MP4/4's front Goodyears after they experienced understeer in qualifying. Senna was thus pushing just as hard as he had to keep ahead without leaving a gap big enough to accommodate any rival. The field thus began to bunch. Prost realised early what a good race set-up he had, and made short work of Gugelmin and Berger as he climbed into the points by lap 10. Two laps later he edged ahead of Alessandro Nannini, but Mansell was a tougher



Alain Prost had every reason to feel bitterly disappointed not winning the Hungarian Grand Prix.

A brilliant bit of opportunism going into Turn One at the start of lap 49 saw him momentarily squeeze ahead of team-mate and eventual victor Ayrton Senna, but as Prost slid inexorably wide as his Honda Marlboro McLaren obeyed the dictates of physics, Senna dipped back through again.

Some suggested it was Prost's mistake. It wasn't. It was simply circumstance, circumstance that had its root in qualifying.

Then, the story had been one of the search of the elusive clear lap. Few managed it with total success but, as usual, Senna's ability in traffic saw him better placed than the more cautious Frenchman. While Ayrton took his eighth pole of the year, Alain's hot lap was spoiled as he came across the wayward Oscar Larrauri, slow to react in the Euro Brun. That ruined the lap that, up until then, had been Prost's fastest of the meeting, and left him seventh on the grid separated from his team-mate by five normally aspirated cars.

The Hungaroring is tight, with a series of tortuous curves that tend slightly to destabilise all but the best turbos in part-throttle running. With only a moderate straight, that gave the non-turbos their most realistic chance of the year, but also guaranteed Prost plenty of aggravation before he even got close to Senna in the race.

Indeed, the Frenchman actually lost places at the start as Senna and fellow front-row man Nigel Mansell dragged side-by-side down to Turn One, completing the lap in ninth place, displaced by Gerhard Berger and Mauricio Gugelmin and just ahead of an urgent Alex Caffi.



customer even after spinning on lap 12 and flat-spotting his tyres before recovering in fourth place. Prost eventually wore him down in time to snatch fourth three laps before Riccardo Patrese's occupation of second came to an end on lap 31. A lap later the Italian was down to sixth, and Prost was now separated from Senna only by the flying Thierry Boutsen.

With Senna dictating the pace, and Boutsen attacking him while simultaneously fending off Prost, the race was electric, but mile by mile Prost was sizing up the Belgian and at the end of lap 47 he was close enough to the Benetton's gearbox going past the pits to slipstream ahead into Turn One to begin lap 48.

Senna, meanwhile, was coming up to lap the battling Yannick Dalmas and Gabriele Tarquini, who had circulated as if tied by elastic since lap 28. As they streamed past the pits to complete the lap, Senna was lining up to go inside Dalmas into Turn One to start the 49th lap. However, the Brazilian had lost sufficient ground to have Prost right with him, all but scraping his wheels down the pit wall.

Senna knew full well that his team-mate was there, and the responsibility that lay on his shoulders. Did he concede, or did he risk taking them both off?

He allowed Prost just enough room, but just before he did so Prost had momentary second thoughts, began to brake, then saw what was happening and accelerated through on the inside in a move worthy of Senna himself. McLaren number 11 slithered into the lead from number 12, but the inside line is far from ideal for the corner, especially at Prost's speed, and as he turned in the MP4/4 began to drift

wide and into graceful oversteer. Senna allowed it a fraction more room, and in doing so aligned himself even better for the exit, and as Prost continued to run wide, darted back through to reclaim the lead. It typified his spirit and the move, awesome in its immediacy and cunning, won him the race.

Prost almost immediately fell back alarmingly. 'Right after that the left front wheel began to vibrate so badly I even began to think it was falling off,' he explained, as he slackened his pace and fell into Boutsen's clutches. He had picked up dirt on the tyre, and as it cleaned itself over the following few laps, he was able to begin his challenge again. It was too late, however, for though Senna now faced his most serious rival of the race, he now had only to maintain his cool, and avoid leaving the slightest gap. In the closing stages Prost was exploiting his set-up to the full to take a second lap out of his advantage, and Ayrton hadn't slowed his pace significantly, but it was over. Prost was faster, but Senna was ahead by 0.529s as the flag greeted his sixth — and most accomplished — victory of the season.



DOMINIQUE LEROY



DOMINIQUE LEROY

It was Boutsen who survived the Carnage in the normally aspirated ranks, but even he was walking wounded by the end. 'The car was beautiful all day,' he confirmed, but with 15 laps to go the Benetton B188's Cosworth DRF split an exhaust pipe. 'I immediately lost two seconds a lap, and after that all I could hope for was a finish.'

Unlike team-mate Nannini, who departed the fray early with a water leak on lap 25, he made it home for his third, third place of the season. Rory Byrne's chassis had performed superbly in both qualifying and the race, but in the final analysis



DOMINIQUE LEROY

the turbos — for which read the McLaren's — were just too strong in the one race of 1988 it seemed they might be at their weakest.

If Benetton's disappointment was offset by Boutsen's place on the podium, Williams had little to cheer from a race that promised so much. In qualifying Mansell had been at his brilliant best, using all of his Senna-like speed and nerve despite feeling awful from the after effects of chickenpox. It was he who headed

the free practice times on Friday morning, when it had rained, and he who looked the strongest non-turbo runner as he planted the FW18C back on the front row alongside Senna, where he had started his year in Brazil.

He actually made a better start than the Brazilian, too, but just as in Rio, it was the McLaren that finally powered ahead.

Via his radio link with Patrick Head, Mansell could be heard enthusiastically relaying his progress. 'He's using the boost now! I'm closing. He can't get away!' And so it proved. Senna may have been going canny, but everything is relative, and he was certainly on no Sunday afternoon jaunt as Mansell tucked the Williams beneath the McLaren's rear wing on lap 12 as they blasted out of the right-hander that takes the cars up the hill to the highest part of the circuit. That proved his undoing, for as it lost downforce in Senna's wake, it slid wide, put the right front wheel over the kerb, and slammed into a hairy 360 degree spin from which brake-locking Mansell was immensely lucky to emerge having lost only two places to Patrese and Boutsen.

The damage had been done, however, and though he soldiered on the Goodyears had been flat-spotted and eventually he pitted for a new set on lap 30. That dropped him back into

a battle with Gugelmin, whom he re-passed, and the troubled Patrese. Riccardo had driven like a demon all weekend, aware his job at Williams is likely to go to Alboreto next year, but an intermittent misfire ultimately spoiled his most competitive showing since Kyalami 1983.

At first Mansell pulled away from Gugelmin, but then Mauricio began to reduce the gap again, frustrated as Mansell blocked his every move. 'Believe me, he knows everything there is to know about keeping someone behind,' said the Brazilian, adding with a grin: 'Mind you, I'd have done exactly the same!'

Sadly, Mansell was exhausted by his virus, and rolled into the pits at the end of lap 61 to retire. 'I'm sorry Patrick,' he relayed, 'but for the first time in my life I've got to call it a day.'

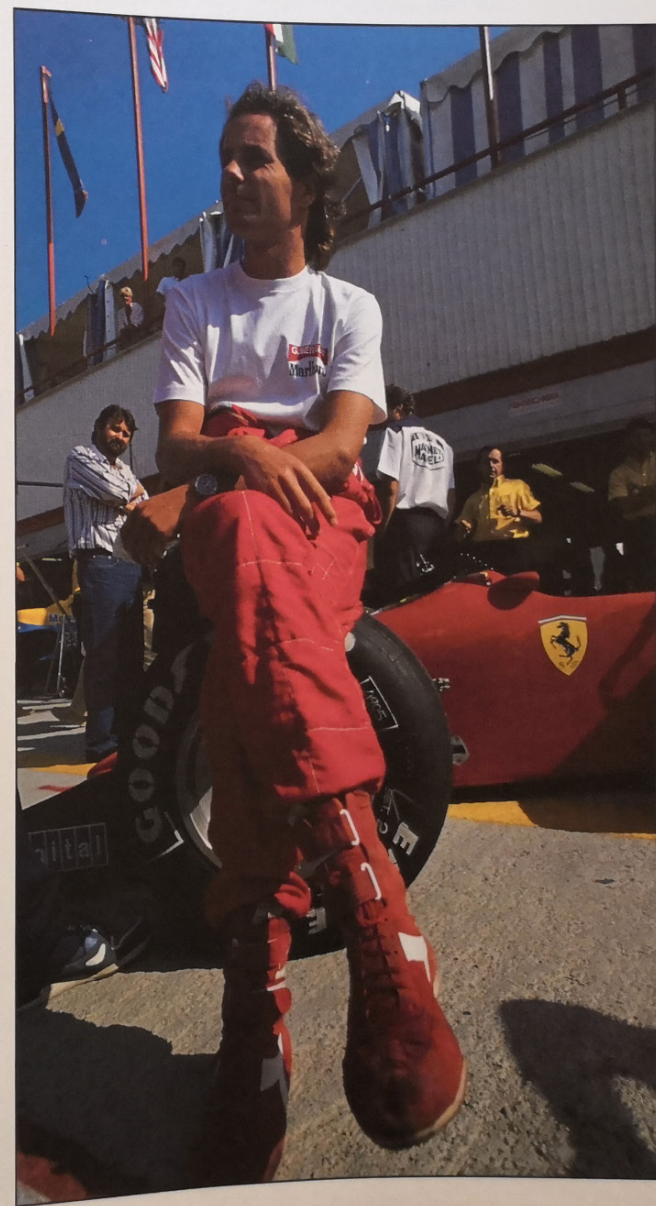
With Patrese joining Boutsen as a hampered runner, Berger moved the Ferrari into his eventual fourth place on lap 38, subdued as he simply plugged on with the F187's usual appalling fuel economy. The night before the race he had echoed his Hockenheim sentiments. 'We have absolutely no chance. All I can hope is that others drop out of a long race...' They did, but it is sad to see such talent so wasted.

Gugelmin, meanwhile, was in no position to fight the Ferrari, his drink bottle having malfunctioned and deprived him of valuable liquid in a punishingly hot race. Worse still, the clutch had gone out of business at the height of his battle with Mansell, and like Williams, Leyton House March had little compensation for a weekend that had promised so much. Adrian Newey's 881 design had gone so well at Silverstone and Hockenheim, but away from the fast circuits it proved just as effective, Berger rating it the best chassis he watched after walking back from a Saturday spin. Ivan Capelli had qualified fourth, right on the pace, but though he was at one stage side by side with Mansell at the start, he lost out when a suspected engine management box fault affected the rev limiter and he over-revved the Judd engine into early retirement.

There was disappointment, too, for Dallara, Minardi and Rial. In Scuderia Italia's Sergio Rinland-penned Bms188, Alex Caffi had excelled to qualify a smooth 10th, and looked wholly capable of maintaining ninth position when his engine blew on lap 23. Ironically, he'd opted for the chassis he felt had the strongest power unit, and might well have given Patrese a hard time for sixth.

Luis Sala, too, could have been a contender, for that honour after lining up an excellent 11th in a Minardi M188 that featured enhanced front suspension and clearly benefited. However, he got too excited on the first lap after making a poor start, collided with Philippe Alliot, and pitted for a new nose. He then staged a strong recovery to finish 10th. Team-mate Pier-Luigi Martini, whose M188 didn't have the revised suspension, lay 13th on lap one and was challenging Eddie

Cheever for 11th eight laps later when Nelson Piquet ran into the back of him and put him out on the spot. Andrea de Cesaris, meanwhile, spent qualifying making up for appalling electrical problems on Friday, but flew from 17th to ninth by lap 28 in the Rial, which now no longer benefits from Gustav Brunner's attentions as the Austrian designer had left prematurely for Zakspeed. However, the Italian's efforts were negated by driveshaft constant velocity joint



DOMINIQUE LEROY

failure next time round, possibly after he'd clobbered a kerb in the morning warm-up.

For Camel Lotus Honda, the Hungarian Grand Prix was just another chapter in the 1988 book of disaster. Piquet was only 22nd after first qualifying, when an experimental set-up didn't work, finally qualified 13th, and then had that altercation with Martini. The Italian blamed the World Champion squarely; the latter's flat-spotted Goodyears, worn right through to the canvass, suggested the Brazilian was not wholly to blame. After stopping for fresh tyres and nosebox, he recovered to eighth in the closest he has come to a tigering drive this year, but the Lotus was still far from any kind of match with the majority of the normally aspirated cars, let alone the McLarens. As for Nakajima, this was another circuit he doesn't like, and though seventh he might as well not have been there at all after pitting his Honda RA168E XE2 V6-powered 100T against the Cosworth likes of Tarquini, Streiff and Johansson. Streiff almost certainly wished he wasn't, the AGS losing a front wheel after contact with the Japanese driver on lap eight.

Tarquini is a street brawler of a race driver, although a charming personality out of the cockpit, his defence of 13th place against Dalmás was a race highlight that came to an end when something went awry in the rear suspension and obliged him to slow after lap 54. After three failures to pre-qualify, that was taken philosophically.

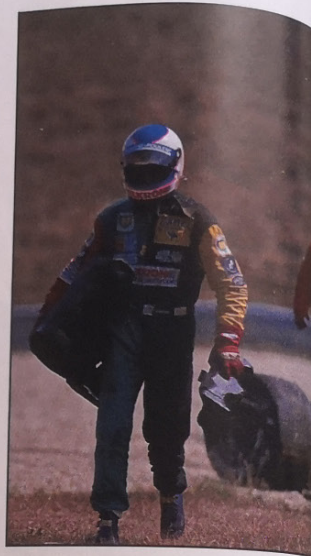
Dalmás, for his part, drove strongly after a barrel-roll on Saturday morning when he tangled with Larrauri, who didn't qualify, but his grittiness was blighted by yet another electrical

gremlin, while Larrousse Calmels team-mate Philippe Alliot was a definite seventh place contender until he lost fourth and fifth gears and then his clutch. That left Stefano Modena to struggle home in his Euro Brun which, as now seems the norm, was afflicted by a misfiring engine.

The Ligiers both went better than usual, thanks to latest-spec Judd engines, but Johansson called it a day with a sticking throttle, reckoning seventh or even sixth might have been possible, and Rene Arnoux quit when his engine blew in a cloud of smoke.

Jonathan Palmer was the sole Tyrrell to qualify, which was a major blow for Julian Bailey who had been fastest for a long time in Friday morning's rain and ended up a brilliant third. He had transmission trouble in his own car and found Palmer's didn't suit him in final qualifying, but Palmer himself didn't get far as his engine simply cut out on lap four. The same fate also fell Alboreto, now wholly disenchanted with the Ferrari situation and a lowly eighth until mechanical silence put him out of his misery on lap 41.

Neither of the Arrows made it home after struggling all weekend, both falling prey to severe brake loss that prompted formation leader Warwick into a spin and saw him overshoot his pit with the rears afire. Neither Zakspeed qualified. Senna's victory, under intense pressure throughout, brought him six wins to Prost's four. But more importantly, it also brought him level with the Frenchman, with 66 points apiece. The wolf was at Alain's door, for from this point on, barring mechanical or human failure, whoever won races would win the title ... ■



DRIVERS' WORLD CHAMPIONSHIP

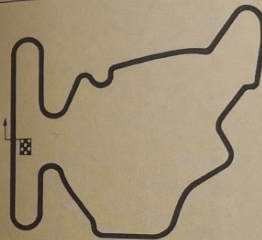
Pos	Driver	Total
1	Alain Prost	66
1	Ayrton Senna	66
3	Gerhard Berger	28
4	Michele Alboreto	16
4	Thierry Boutsen	16
6	Nelson Piquet	15
7	Derek Warwick	9
8	Nigel Mansell	6
8	Alessandro Nannini	6
10	Jonathan Palmer	5
10	Mauricio Gugelmin	5
12	Ivan Capelli	4
13	Andrea de Cesaris	3
14	Riccardo Patrese	2
15	Pier-Luigi Martini	1
15	Eddie Cheever	1
15	Satoru Nakajima	1

CONSTRUCTORS' WORLD CHAMPIONSHIP

Pos	Team	Total
1	McLaren-Honda	132
2	Ferrari	44
3	Benetton-Ford	22
4	Lotus-Honda	16
5	Arrows-Megatron	10
6	March-Judd	9
7	Williams-Judd	7
8	Tyrrell-Ford	5
9	Rial-Ford	3
10	Minardi-Ford	1

1988 HUNGARIAN FORMULA ONE GRAND PRIX

LENGTH
4.014 km
2.494 miles



FASTEST LAPS

Driver	Time	Lap
Alain Prost	1m 30.639s	51
Ayrton Senna	1m 30.964s	67
Thierry Boutsen	1m 31.272s	55
Nigel Mansell	1m 31.735s	41
Mauricio Gugelmin	1m 32.235s	46
Gerhard Berger	1m 32.241s	37
Alessandro Nannini	1m 32.564s	19
Riccardo Patrese	1m 32.569s	21
Nelson Piquet	1m 32.783s	12
Michele Alboreto	1m 33.080s	22
Andrea de Cesaris	1m 33.529s	28
Luis Sala	1m 33.615s	56
Alex Caffi	1m 33.761s	19
Derek Warwick	1m 34.078s	39
Yannick Dalmás	1m 34.120s	56
Satoru Nakajima	1m 34.138s	36
Eddie Cheever	1m 34.226s	36
Pier-Luigi Martini	1m 34.897s	6
Philippe Alliot	1m 35.432s	5
Stefano Modena	1m 35.536s	22
Stefan Johansson	1m 35.759s	5
Rene Arnoux	1m 35.940s	5
Gabriele Tarquini	1m 36.008s	20
Philippe Streiff	1m 36.339s	5
Jonathan Palmer	1m 36.660s	3
Ivan Capelli	1m 44.982s	1

OFFICIAL STARTING GRID

N MANSELL (1m 27.734s) Williams-Judd FW12	(1)	A SENNA (1m 27.635s) McLaren-Honda MP4/4
I CAPELLI (1m 28.350s) March-Judd 881	(2)	T BOUTSEN (1m 27.970s) Benetton-Ford B188
R PATRESE (1m 28.569s) Williams-Judd FW12	(3)	A NANNINI (1m 28.493s) Benetton-Ford B188
M GUGELMIN (1m 29.099s) March-Judd 881	(4)	A PROST (1m 28.779s) McLaren-Honda MP4/4
A CAFFI (1m 29.891s) Dallara-Ford Bms188	(5)	G BERGER (1m 29.244s) Ferrari F187/88C
D WARWICK (1m 30.185s) Arrows-Megatron A10B	(6)	L SALA (1m 30.103s) Minardi-Ford M188
E CHEEVER (1m 30.908s) Arrows-Megatron A10B	(7)	N PIQUET (1m 30.405s) Lotus-Honda 100T
P MARTINI (1m 31.123s) Minardi-Ford M188	(8)	M ALBORETO (1m 31.052s) Ferrari F187/88C
A DE CESARIS (1m 31.523s) Rial-Ford ARC 01	(9)	Y DALMAS (1m 31.200s) Lola-Ford LC88
P ALLIOT (1m 31.719s) Lola-Ford LC88	(10)	S NAKAJIMA (1m 31.648s) Lotus-Honda 100T
G TARQUINI (1m 32.160s) Coloni FC188	(11)	J PALMER (1m 31.741s) Tyrrell 017
S JOHANSSON (1m 32.324s) Ligier-Judd JS31	(12)	P STREIFF (1m 32.265s) AGS-Ford JH23
S MODENA (1m 32.614s) Euro Brun-Ford Er188	(13)	R ARNOUX (1m 32.477s) Ligier-Judd JS31

RACE CLASSIFICATION AND RETIREMENTS AFTER 76 LAPS

Pos	Driver	Nat	Car	Laps	Time/retirement	Speed (mph/kmh)
1	Ayrton Senna	Bra	McLaren-Honda	76	1h 57m 47.081s	96,563/155,475
2	Alain Prost	Fra	McLaren-Honda	76	1h 57m 47.610s	96,555/155,389
3	Thierry Boutsen	Bel	Benetton-Ford	76	1h 58m 18.491s	96,135/154,713
4	Gerhard Berger	Aut	Ferrari	76	1h 59m 15.751s	95,368/153,475
5	Mauricio Gugelmin	Bra	March-Judd	75		
6	Riccardo Patrese	Ita	Williams-Judd	75		
7	Satoru Nakajima	Jap	Lotus-Honda	73		
8	Nelson Piquet	Bra	Lotus-Honda	73		
9	Yannick Dalmás	Fra	Lola-Ford	73		
10	Luis Sala	Spa	Minardi-Ford	73		
11	Stefano Modena	Ita	Euro Brun-Ford	72		
12	Philippe Alliot	Fra	Lola-Ford	72		
13	Gabriele Tarquini	Ita	Coloni-Ford	71		
14	Derek Warwick	GB	Arrows-Megatron	65	Brakes	
15	Nigel Mansell	GB	Williams-Judd	60	Driver exhausted	
16	Eddie Cheever	USA	Arrows-Megatron	55	Brakes	
17	Michele Alboreto	Ita	Ferrari	40	Engine cut out	
18	Rene Arnoux	Fra	Ligier-Judd	32	Engine failure	
19	Andrea de Cesaris	Ita	Rial-Ford	28	CV joint failure	
20	Alessandro Nannini	Ita	Benetton-Ford	24	Water leak	
21	Alex Caffi	Ita	Dallara-Ford	22	Engine failure	
22	Stefan Johansson	Swe	Ligier-Judd	19	Sticking throttle	
23	Pier-Luigi Martini	Ita	Minardi-Ford	8	Collision damage	
24	Philippe Streiff	Fra	AGS-Ford	8	Collision damage	
25	Ivan Capelli	Ita	March-Judd	5	Engine damage	
26	Jonathan Palmer	GB	Tyrrell-Ford	3	Engine cut out	

Fastest lap: Prost, on lap 51, 1m 30.639s, 99.065mph/159.428km/h



LUKAS GORY



DOMINIQUE LEBRY

1988 CART SEASON UPDATE



DAN KNUTSON



DAN KNUTSON

DAN KNUTSON



leaves Lola and March. This season the Lola T88 chassis has proven to be better than the March 88C. Yet ironically each have won three races. As the season progressed, every top March team save one switched to Lola. Patrick Racing/Emerson Fittipaldi, Kraco Racing/Michael Andretti and Shierston Racing/Paul Boesel all made the switch. That left Galles Racing with driver Al Unser Jr as the only front-line team still running a March. And guess who won three races — Al Unser Jr!

As for Porsche, the Holbert Quaker State team has been making steady progress. Teo Fabi has been driving a March chassis powered by the Porsche V8 turbo while the Porsche revamps the original Porsche chassis. Working with two different chassis, though, has hampered the team. Although their highest finish so far has only been a seventh place (at Portland), the team shows promise for 1989. Helmut Flegl, who was involved in the technical development of the Porsche 917 Can-Am cars, has joined the operation to coordinate the efforts between America and Germany.

The 15-race CART season is now 10 races old. The season so far:



Danny Sullivan/Penske Chevrolet

PHOENIX 200

The season began on the one-mile Phoenix oval. From the first laps of practice Rick Mears showed that this new Pennzoil Penske Chevy was going to be hard to beat. He won the pole, the first pole for a Penske chassis since 1976. He led easily in the opening stages of the 200 mile race until he spun while trying to lap a backmarker. Mario Andretti went on to win in his Newman-Haas Racing Amoco/K-Mart Lola Chevy. It was Mario's 50th Indy car victory. Only A.J. Foyt with 67 wins tops Mario in the record books. Mario also set a new record in Indy Car career prize money winnings with lifetime earnings of \$US5.5 million. He topped Al Unser Sr who had won \$US5.4 million. Roberto Guerrero in his Granatelli Racing STP Lola Cosworth and Michael Andretti in his Kraco Racing March Cosworth rounded out the top three. ■

LONG BEACH

The Andrettis have owned the streets of Long Beach. Mario won a Formula One race here and three Indy Car races, and his son Michael won the only Indy Car race held on the Southern Californian track. Danny Sullivan showed that Mear's performance at Phoenix hadn't been a fluke by winning the pole in his Miller-sponsored Penske. Al Unser Jr had finished second behind the Andrettis in the past two Long Beach races and was determined that he wouldn't finish in the runner-up spot this year. He slipped his Valvoline March Chevy by Sullivan in the second turn and took the lead from Mario before the end of the first lap. 'Little Al' easily pulled away from Andretti. Although he briefly lost the lead during pitstops and

yellow flag caution periods, Little Al went on to win over Bobby Rahal's Truesports Racing Budweiser Lola Judd and Kevin Cogan's Machinist Union March Cosworth. Polesitter Sullivan had retired with engine troubles. ■

INDIANAPOLIS 500

During the practice for the Indy 500 — which drags on for nearly the entire month of May — Mears and Mario Andretti traded fastest laps. Both were running in the 221 mph range, and Mears even turned a staggering (although unofficial) lap at 222.827 mph.

Mears won the pole with a record average over four laps at 219.198 mph



DAN KNUTSON

On the grid — the March Chevrolet of Al Unser Jr. (3) and Mear's Penske

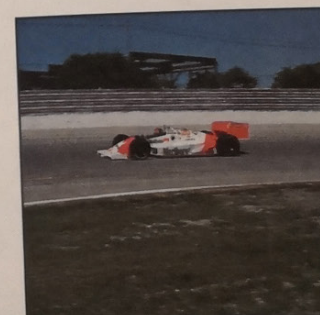
during which he also set a new one lap record of 220.453 mph. Mario found a slippery track on his run and could only grid fourth with an average of 214.692 mph. Filling the rest of the front row were Penske drivers Sullivan and Al Unser Sr.

The Penske drivers had agreed that whoever had a nose in front would take the lead into the first corner. All take the lead into the first corner. All the front runners made it through safely. Behind them, though, Scott Brayton lost control of his Lola Buick and tangled with Guerrero. A separate accident saw Tony Bettenhausen spinning his Lola Cosworth. Out came the pace car. The race started and finished behind the pace car which would be out on the track for 79 of the 200 laps.

Out in front Sullivan dominated, while his Penske teammate Mears had

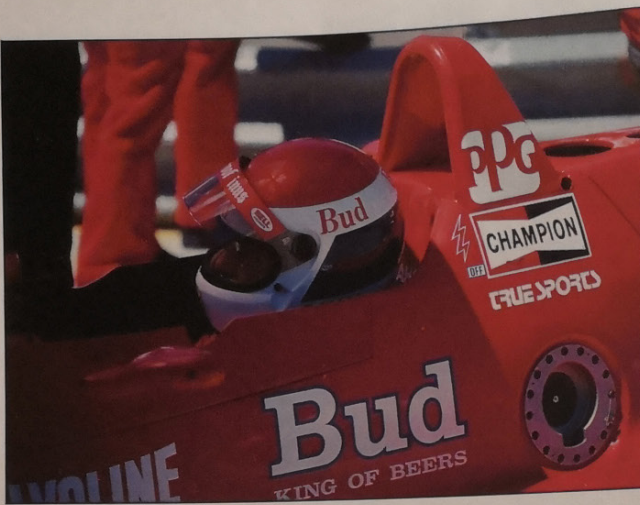
handling problems and at one point dropped a lap down. In the midpoint of the race Scotsman Jim Crawford managed to lead for eight laps, but the rest of the day belonged to the Penske drivers as Sullivan, Unser Sr, and Mears led the way.

Mears was finally getting his car dialed in. The other two Penske drivers, though, had front wing troubles, and this was probably why Sullivan crashed. Mears led most of the latter half of the race and went on to win his third Indy 500. Behind him three different drivers finished second. Officials penalized Emerson Fittipaldi for passing under the yellow flag, withdrew the penalty and then reinstated it! The Patrick team protested the penalty after the



DAN KNUTSON

Emerson Fittipaldi/March Chevrolet



Bobby Rahal/Lola Judd

MILWAUKEE 200

Less than a week after all the hype of Indy ended, the CART teams were in Milwaukee for the 200 lap race around the one-mile oval. The cars and drivers were the same, but the scene was far more relaxed without all the crowds and media attention of Indy. One thing was the same — Penske domination.

Still, for the first time of the season a Penske didn't win the pole. Fastest qualifier was Michael Andretti and he shared the front row with his father Mario. The young Andretti's March was Cosworth powered, marking the only time so far this season that a Chevrolet engine wasn't on the pole. Guerrero crashed his Lola during practice and briefly knocked himself unconscious. Although the season had started well for the Columbian, crashes and disappointing showings followed. So after the races in Portland and the Meadowlands, Guerrero and team owner Vince Granetelli agreed that he shouldn't race in Cleveland or Toronto. His ride was taken over by part-time Penske driver Unser Sr. Meanwhile, in the Milwaukee race, Mears won over Sullivan and Fittipaldi. ■

PORTLAND 200

From the Midwest the CART teams headed for the Northwest corner of America and the 200 mile race around the Portland, Oregon road course. Sullivan put his gold and white Penske on the pole. In the race Arie Luyendyk put on a great drive in his Simon Racing Provimi Veal Lola Cosworth.

He led for 53 laps and battled with Sullivan. In the end Sullivan took the lead thanks to superior pitwork from the Penske crew. Gearbox troubles insured that Luyendyk would remain in second. Third went to Fittipaldi. Just like his 1985 Indy 500 win, Sullivan 'spun and won' in Portland. ■

CLEVELAND

The Cleveland course is set up on airport runways on the shores of Lake Erie. The flat and featureless circuit was the scene of the best CART race of the year. Qualifying saw the usual Penskes in front with Sullivan on the pole and Mears alongside him. Most people thought that Team Penske, now with three straight wins, would score yet another victory. One person who didn't put himself in that group was Mario Andretti. The race saw a fabulous battle between the Lolas of Mario and Rahal and Sullivan's Penske. They fought hard, racing at ten-tenths throughout the 198 mile affair. In the end Mario won, crossing the line just in front of Rahal and Sullivan. ■

TORONTO

Going 'north of the border' the CART teams set up camp for the Toronto street race. The pole winner? Sullivan, naturally. No one could come close to Sullivan and Unser Jr in the race. Unser Jr won in his March Chevy. His only challenger, Sullivan, placed second after being penalized by race officials.

Drivers were told that when they exited the pits they had to stay below a painted line. After a pitstop Sullivan crossed the line too early and officials called him in for a 'stop and go' penalty. It was one if those 'what if' races, for at the chequered flag Sullivan was only 12 seconds behind Little Al. Michael Andretti finished third. Kevin Cogan crashed during the race and broke his arm. ■

MEADOWLANDS

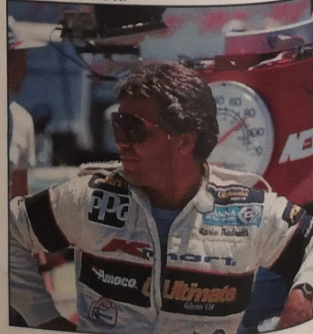
One week after Toronto the Indy cars were on another temporary course and Little Al won again. The Meadowlands course is set up in a giant sports complex in New Jersey, just across the river from New York City. The circuit had been modified for 1988. It used to be an 11-turn, narrow concrete-lined and bumpy track. Now it was a distorted 6-turn oval which was still narrow, concrete-lined and bumpy.

For a change the Penskes didn't make the front row, Fittipaldi put his red and white Marlboro Lola (the team having now switched from March) on the pole alongside Mario Andretti's white Lola.

Fittipaldi led and dominated in the early stages, leading all but three of the first 111 laps. Then came a controversial move which CART fans are still arguing about. Little Al was following Fittipaldi when, according to Unser, Fittipaldi made a mistake and went wide into a turn. Little Al went inside into a turn which only had room for one car. The two cars bumped and Fittipaldi ended up in the wall.

Mario Andretti, who had been running conservatively to save his brakes, took first place from Unser Jr. But Mario's bad luck struck again with just two laps to go when a CV joint broke. He held on to finish second behind Unser Jr while Mears took third. ■

Mario Andretti



Father and son on the front row for the Milwaukee Indy Car race. Polesitter Michael Andretti March Cosworth (18) and his father's Lola Chevrolet (6).

MICHIGAN 500

Roger Penske owns the high-banked Michigan oval located about two hours drive from Detroit. While his Indy team has won just about everything else, they had never won the 500 mile race on their home track. Sullivan would put an end to that streak though. Mears won the pole, while Unser Sr (back with the Penske team for this race) and Mario Andretti filled out the front row.

Penske's regular drivers each have their own speciality — Mears is the master of the ovals and Sullivan is the road course expert. Unser Sr is another oval driver. Halfway through the Michigan 500 Mears led over Sullivan and Unser Sr. Engine troubles eliminated Mears and Unser Sr leaving Sullivan far out in front. He finished a lap ahead of Rahal and three laps ahead of Michael Andretti. The latter was in a Lola, the Kraco team having made the switch from March. Only eight cars finished. ■

POCONO 500

This was another race of attrition with crashes eliminating many of the top runners. Mears put his yellow Penske on the pole to set yet another record — with his poles in the Indy 500 and the Michigan 500 he became the only driver ever to win the pole in all three 500 races (known as the Triple Crown) in a single year. Mears ended up in the wall after collecting some debris from someone else's accident. Mario was leading with Sullivan chasing him. Mario moved under Dick Simon to lap him only to have Simon, who hadn't seen Mario, drive into him. One of those horrifying accidents that break out on the high speed ovals ensued. Although their cars were completely wrecked, Mario, Sullivan and Simon were not injured. Later in the race Mario's nephew John Andretti crashed and

destroyed his Skoal Bandit Lola Cosworth.

Two-time CART champion Bobby Rahal has been having a frustrating year. Truesports Racing switched to Judd motors in 1988. Like Williams in Formula One, things didn't go smoothly for the Rahal's CART team. Yet they are finally getting results. After finishing second in Michigan Rahal won the Pocono 500. It was his first CART victory of the year and the first-ever CART victory for the Judd engine. Unser Jr took second and Guerrero was third. ■

This year and next ...

With five races to go the 1988 PPG CART Indy Car World Series championship is still close with Rahal leading with 107 points over Sullivan with 104. Next in the standings are Unser Jr 102, Mears 81 and Michael Andretti 77.

CART has already announced rule changes for 1989. The most controversial change involves a smaller rear wing. In 1989 the rear wing height will be lowered from 36 inches to 32 inches. Cord thickness — the section width — is changed from 10 inches to 9 inches, and cord length has been reduced from 30 inches to 24 inches. Endplate size has also been reduced from 30 to 24 inches.

One wouldn't think that a smaller wing would cause such an uproar, but it has. The smaller teams claim that the new rear wings will require aerodynamics changes to the entire car. And that, they say, will make their 1988 and 1987 chassis obsolete. Andy

Kenopinsky, who is the team manager of the Machinist Union team, resigned from his CART Board of Directors post to protest the move. Kenopinsky has played an important role on the board as a voice of the 'little guy'.

Still, CART has to do something to slow speeds. So the rules controversy is far from settled yet. While the teams argue about the rules, the CART 'silly season' has started. Like Formula One, the who goes where in CART has plenty of rumours circulating on pitlane.

Some seats are already set. Mears will stay with Penske, Luyendyk with Simon Racing, Unser Jr with Galles, Teo Fabi with Porsche and Boese with Shierson.

Rahal was looking for a team that had Chevrolet engines, but his recent success with the Judd motor have changed that. Another driver looking for Chevy power is Michael Andretti. He was also looking into Formula One, but apparently couldn't find anything. He could stay with Kraco Racing, but only if they get Chevrolet engines. That raises another question. Which teams will Chevrolet supply next year? This has yet to be decided, and when it is, it will have a definite bearing on the entire CART scene. Of the remaining top CART teams — Sullivan and Penske, Mario Andretti and Newman-Haas, Fittipaldi and Patrick — the changes for 1989 have yet to be settled. Obviously if one driver were to switch it would set off a chain reaction.

Who will win the 1988 CART championship? What's going to happen on the Indy Car scene in 1989? Check the next issue of Prix Editions. ■

The Penske Chevrolet PC17 of Rick Mears



World News

Porsche is seriously considering building a Formula 1 engine for the 1990s. While still in the planning stages, a Porsche spokesman said that the engine would definitely be a V12. With the new rules in 1989 calling for 3.5 litre non-turbo engines, horsepower will come from higher engine revolutions. Formula One engines will be turning over 15,000 rpms in the next few years, he forecast. Originally Porsche had hoped to use its V8 turbo Indy engine in Formula One but lost that option when the FIA banned turbos. Still, the Porsche CART engine could be used in IMSA, Group C endurance racing and production car racing. And Porsche plans to use the engine in a production car as well.

Other major auto companies such as Mercedes are also considering Formula One. Former world champion Niki Lauda visited the Mercedes factory in Stuttgart before the German Grand Prix. Another visitor was Bernie Ecclestone who is interested in promoting the proposed production car series (now delayed until 1990) and finding an engine for his dormant Brabham team. Yamaha is also rumored to be interested in Grand Prix racing. Their name has been linked to the March team.

BMW has said that they have no plans to build a Formula One motor. BMW motorsports director Wolfgang-Peter Flohr resigned from BMW in protest over their decision.

Hockenheim, West Germany — 'I am a professional driver. And when I make a judgment some people respect this, some don't,' Alain Prost said Friday. Prost drew sharp criticism from the Italian and French press for his decision to pull out of the rain-soaked British Grand Prix. 'I wanted to retire after one lap,' Prost said in an inter-

view for the American ESPN TV channel. 'I was not motivated to push harder because of the big risk. The car was very bad. If you take a small risk when you are fighting for the lead it's OK. But being 15th ... there's no point.'

Prost was so angry at the French press (including one of the main TV stations) that he is refusing to speak to most of them. The tension between Prost and the press grew after he and Marlboro McLaren Honda team-mate



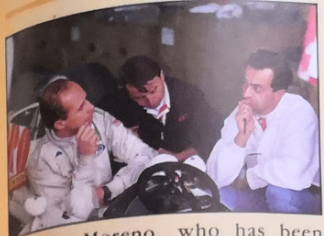
Ayrton Senna arrived 35 minutes late to the qualifying press conference Saturday. The conferences are already held two hours late in deference to McLaren's wishes.

When an English journalist said the drivers should be fined, an angry Prost replied: 'That's the last time we will come here.' The journalist had a terse exchange with Prost and Senna. They claimed that they are mobbed by the journalists in the pits and outside their motorhome, and this was why they were late.

The Benetton Ford team has been steadily improving, while so far this season the Canon Williams Judd team has had one of its worst years ever. So why would Belgian Thierry Boutsen decide to move to Williams next year? 'The Williams team is a little better, a little more experienced,' Boutsen said. Next year Williams will be using the new Renault V10. Does it worry Boutsen that he will have to deal with the problems that could arise from a new motor? 'Not

really,' he said, 'because Ford will have a new engine next year as well.' Benetton has yet to select Boutsen's replacement.

Sorry, officer, I must not have been watching the speedometer. A radar gun clocked Andrea de Cesaris' Rial at nearly 200 km/h in pitlane Saturday. The speed limit in pitlane during practice is 50 km/h. Race officials gave him a 'severe reprimand'.

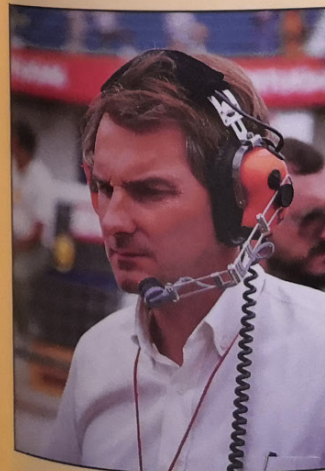


Roberto Moreno, who has been winning in Formula 3000 and has also driven in occasional CART and Formula One races, has signed a testing contract with Ferrari.

Ferrari team manager Marco Piccinnini will be leaving at the end of the year, and Ferrari's aerodynamic engineer Jean Claude Migeot could well be heading to the Williams team.

Ferrari has already done preliminary testing with its new V12 car. Every time Gerhard Berger asks when will he get a chance to drive it he gets the same answer from the Ferrari hierarchy — 'In about three weeks.'

Another former Ferrari designer — Harvey Postlethwaite — takes up his post at Tyrrell on August 1. He will be creating the successor to this year's uncompetitive Tyrrell 017. Meanwhile Tyrrell debuted its new transporter here at Hockenheim. Tyrrell 'truckies' Ian Hunter and John Lucas showed this writer around their new rig. The tractor is a Volvo Globetrotter with a 12.6 cc, 400 horsepower 6-cylinder turbo motor hooked to a 14-speed gearbox. While they carry sponsor names Courtaulds and Data General, the sides of the new trailer are mostly blank. There is plenty of room left to paint something ... like the name of Tyrrell's rumored new high-dollar sponsor.



The German West Zakspeed team has been struggling to qualify this season. Next year will be better. They will be trading their tired 4 cylinder Zakspeed turbos for Ford Cosworth V8s in 1989. They will also have a new designer — former Ferrari employee Gustav Brunner who penned this year's Rial. The Rial car, in the hands of the sometimes erratic Andrea de Cesaris, has been one of the most competitive of the new cars. Tension has arisen between the two German teams as Rial owner Gunter Schmit says that he had a verbal agreement with Brunner and Zakspeed's Erich Zakowski intruded on it.



Yet another team has announced plans to compete in Formula 1 in 1989. The ATMOS team has been created by Jean Mosnier, head of Lola Motorsport, Roberto Angiolini, and Garvin Brown III, former CART and Can-Am entrant with Danny Sullivan. They plan to either buy an existing team or build their own cars.

The Formula 3 Euro Challenge was a concept created by Bernie Ecclestone, BMW's Peter Flohr and Ford's Michael Kranefuss. It pits the best Formula 3 drivers of Europe against the best Formula 3 drivers of a host country. Here at Hockenheim drivers from France, England and Italy took on Germany's best. France's Eric Cheli won in his Dallara Alfa Romeo. He beat a trio of Germans who rounded out the top four — Michael Bartels (Renyard Spiess), Hanspeter Kaufmann (Dallara Spiess) and Frank Biela (Martini Spiess).



'I've never had such a big moment,' Berger said Saturday at the German Grand Prix. He had his Ferrari flat out in sixth gear and was travelling at over 300 km/h when he pulled out of the slipstream to pass Cheever's Arrows. Cheever chose the exact same time to slipstream past Oscar Larrauri's EuroBrun. 'I tried to take Cheever on the left on the grass and lost it,' Berger said. 'I went into a 200-metre spin from one end of the track to the other.' The lurid spin took the Ferrari between the two other cars, but Berger fortunately didn't hit anything. He had another close call in the race when he was forced off onto the grass at high speed by Piercarlo Ghinzani. This time Berger kept control. 'I like the grass!' he quipped later.

1988 marks the anniversary of the deaths of two drivers killed in this area. Jim Clark lost his life in a Formula 2 race here at Hockenheim in April 1968. At a rest stop just a few minutes drive south of the Frankfurt airport can be found a memorial to Bernd Rosemeyer. An engraved stone marks the spot just off the Autobahn where the German driver crashed in January 1938 while attempting to set a speed record in his streamlined Auto Union.

Too Tall Danner: Walter Brun has been unhappy with the performance of Oscar Larrauri. So he tried to replace him with Christian Danner. But Danner, who is over 185 cm tall, couldn't fit in the EuroBrun. Larrauri is 170 cm.



BY DAN KNUTSON

GERMAN GRAND PRIX



If it's wet, it's got to be Senna
That was the mid-season message as rain visited the Grand Prix circus again at Hockenheim for the German Grand Prix.



BY DAVID TREMAYNE



If it's wet, it's got to be Senna. That was the mid-season message as rain visited the Grand Prix circus again at Hockenheim for the German Grand Prix. The last wet Formula One race before Silverstone had been Estoril in 1985. Before that, it was Monaco in 1984. Senna had been the man in both. True, Alain Prost had won the latter, but Senna was dogging him, closing, when the race was stopped prematurely...

Quite simply, the Brazilian's ruthless commitment was the decisive factor as the championship balance began to swing gently towards his favour. For a moment in Friday's free practice it looked as if Camel Lotus Honda had found the beginnings of an answer to Honda Marlboro McLaren, when Nelson Piquet slipped fractionally under Senna's fastest lap as they circulated in the 1m 47s. But then Senna posted a crushing answer with 1m 45.685s, and subsequently trimmed that to 1m 44.596s for his eighth pole position of the year.

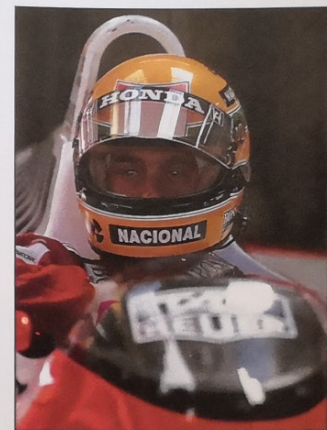
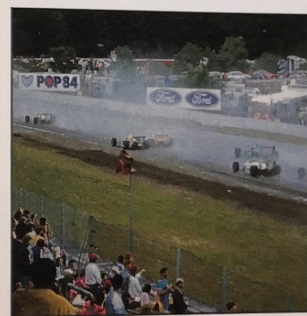
Friday's temperatures soared at the 4.224 mile German speedbowl, but Saturday was even worse as they nudged 101 degrees, with humidity to match. Rain or shine, however, the McLarens were the cars to beat.

Prost, meanwhile, was second on the grid in a new chassis, the spare, having run over a kerb on Friday and damaged the monocoque of his intended racer. He was happier with the spare's handling, and the team began to form a suspicion about its Silverstone handling problem. It hadn't been so bad in Britain for Senna, who'd been in a newer chassis than Prost, and between them designers Steve Nichols and Neil Oatley began to theorise that highspeed flutter of the nose wings had been

the root cause of Prost's dilemma that had prompted his retirement in England.

The Frenchman was still stinging from what he saw as totally unjustified criticism in his national press as he lined up on the soaked Hockenheim grid. 'One week, after Ricard, they hail me as the new Messiah. Then after Silverstone I'm finished' he growled.

He didn't look finished in the German Grand Prix. Senna made the best start — as usual — but Prost was away cautiously and was demoted to fourth by Gerhard Berger and Alessandro Nannini, both again honing their reputations as chargers. This time



Prost didn't fade. Instead, he slipped ahead of the Benetton on lap eight as Nannini continued to lead the non-turbo runners by a faultless country mile, then pushed Berger down four laps later.

By then Senna was over 12 seconds in front, but Prost was pushing and the gap fluctuated tantalisingly as they lapped traffic. This was Prost at his finest, applying discreet but remorseless pressure in the hope Senna might be pushed into a repeat of his Monaco indiscretion. This time, however, it was Prost who erred. He'd lost a massive six seconds while lapping Rene Arnoux and Satoru Nakajima, and exiting the Ost Kurve chicane on lap 34 he edged a Goodyear on to the slippery kerb and half spun on to the grass. Luckily he found sufficient traction to recover, but now the battle was over. 'My rear tyres were getting too warm, and I just pushed a little too hard,' he admitted later, having settled for six more championship points.

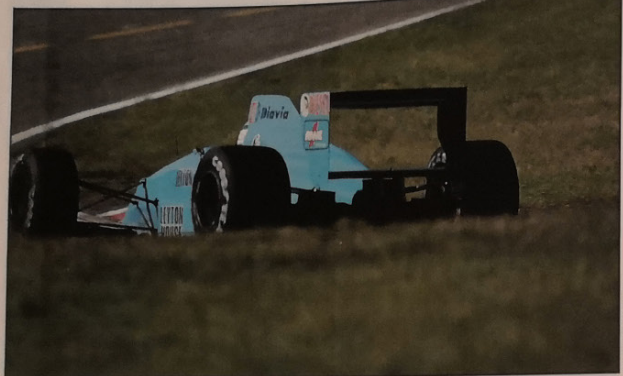
The honest Berger clearly thought there would be no answer to McLaren from Ferrari in 1988. The Austrian had adopted a new race policy since Silverstone, refusing to run with the Woking hares unless and until Ferrari could give him the economy to stay there.

On Saturday he survived a mighty scare when he tried to pass Eddie Cheever's Arrows just as the American was passing Oscar Larrauri's Euro Brun. 'I was flat in sixth, well over 300 km/h, and when I had to take to the grass I looped backwards in front of Larrauri and just missed them both!' If it worried him, it didn't show, and the practice came in useful for the race. As he lapped Piercarlo Ghinzani's West Zakspeed (logoed East on this occasion because of

Germany's cigarette advertising laws!) the Italian simply moved him clean on to the grass on lap 33 at the Ost Kurve. Amazingly, Gerhard didn't spin, but he was less than amused. 'The guy looked in his mirrors, saw me, and *still* moved over ...' He soldiered on for third, team-mate Michele Alboreto inheriting a distant fourth when Nannini ran into trouble. The Ferraris were reliable, but just not fast enough. 'I really want to win, of course,' said a resigned Berger.



DOMINIQUE LEBROY

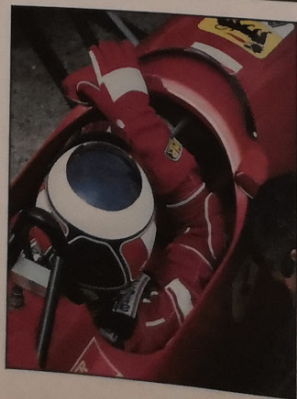


DOMINIQUE LEBROY

'But I can tell you, there is just no way we will this year. At least, not in ordinary circumstances.'

For Benetton, Nannini's pit call eight laps from the end was a cruel blow. The Whitney team had all sorts of silly reliability problems last year, from crimped electrical leads to detached undertrays, but has worked very hard to hone its 1988 act and in the Italian has found a real star. Sadly, the throttle cable bracket had sheared from the Cosworth DFR's right-hand cam cover, and he lost four laps having it jury-rigged. His sole consolation was fastest lap as he exploited a fresh set of wet weather Goodyears on his return to the track. That, and the knowledge that he had again overshadowed team-mate Thierry Boutsen. The Belgian was unhappy with his B188's balance throughout because he had stayed with dry weather settings, hoping the rain would stop. When it didn't he likened handling the car to driving on ice, and was thankful for the final championship point for sixth place, behind Ivan Capelli's Leyton House March.

The Italian had opted for classic wet weather settings — more downforce front and rear and disconnection of the rear anti-roll bar — and while he couldn't challenge Nannini, was nonetheless able to maintain sixth place until his fellow countryman's throttle problem. Until lap 15 it seemed he



ELIAS GOREN

would have to defend the place against a charging Nigel Mansell, again working towards the front of a wet race in the standard (non-reactive) Canon Williams FW12, but when the Englishman's gear selection offered him nothing but fifth he made a pit stop for repairs and then slid terminally off the road as he rejoined. Later, fought a misfiring defence of ninth place against Nakajima, did the same thing when the FW12 finally got away from him in the Sachs Kurve with nine laps to run.

In Capelli's book, one of the great performances of the race came from his team-mate Mauricio Gugelmin, who ran his March with dry settings. 'I know what my car felt like,' smiled Ivan, 'and if he managed eighth place with his on stiffer settings, he did a damn good job. I just don't know how he drove it like that in those conditions.'

Mauricio himself wasn't too sure, either, surviving a race of 'moments' as the 881 slithered round. Both drivers set very similar fastest race laps — Capelli 2m 06.833s Gugelmin 2m 06.946s — despite their varying setups, a reflection of the manner in which the weather toyed with the

drivers. As the track began to dry around lap eight, and then again around lap 20, Gugelmin's car handled better, but as soon as it began raining again, Capelli had the edge.

There were, at the start, some bold individuals who opted for slicks in the vain hope it would dry altogether. Nelson Piquet was one, hoping for a miracle after the race morning warm-up had seen his Camel Lotus off its Friday and Saturday pace. He lasted as far as the Ost Kurve chicane on the first lap before tackling the scene of his celebrated 1981 fight with Eliseo Salazar backwards, to the detriment of the Lotus' left-hand sidepod. While

the triple World Champion couldn't keep it on the black stuff Alex Caffi, Philippe Streiff and Nicola Larini all could.

Caffi, in particular, was unlucky in Beppe Luccini's BMS Dallara. He survived the return of the rain as the race moved into double-figure laps, and had just received the call on his radio to come in at the end of his 16th lap when his right rear Good-year exploded in the first corner and obliged him to limp home on three wheels. With a fresh set of wets he would later keep the 188 ahead of Alboreto's Ferrari until the finish, albeit two laps down.

Streiff and Larini staged a fantastic duel for last place in the opening laps, both realising early that slicks weren't the right way to have gone, but their brave efforts were negated by throttle cable breakage and electronics failure respectively.

Lady luck obviously felt she'd dealt enough favour to Philippe Alliot in Mexico, for besides Caffi, Alliot probably received the rudest treatment. Both Larrouse Calmels Lola LC88s were again off the pace in Germany, wet or dry. Yannick Dalmas would survive damaged nose wings and two further stops to investigate a misfire, to place 19th, but Alliot went out on lap nine just as Senna was about to lap him. The Frenchman had been called in for slicks on his eighth lap, as the track was by then drying nicely, but no sooner had he rejoined than it began raining again.

Senna could see Alliot was in trouble as they headed for the Ost Kurve. The Brazilian dived alongside him as they entered the chicane, as usual adopting his 'be ahead of the accident' philosophy where a more cautious leader might have eased back. Alliot, meanwhile, went in much too fast, obliged by Senna to run on a particularly wet line, and that was all she wrote as the Lola spun into retirement.

In the drier stages, the charge which had taken Gugelmin past Cheever, Nakajima and Patrese looked likely to put him on Derek Warwick's tail after the USF&G Arrows driver had patiently distanced himself from any real pursuit in the early laps, but the rain obliged the Brazilian to ease up and the Briton duly survived to claim seventh. 'That was one of the most boring races I've ever been in,' he quipped, the early laps apart. Then he had suspected some of his rivals of deliberate weaving to keep him behind, until he realised that they were simply trying to get out of the wall of spray of the cars in front so they had some idea just where they were on the sodden track ...

While Warwick's Arrows ran cleanly if not particularly quickly, Cheever's was off form as early as the fifth lap, the American suspecting water had entered the intercooler and upset its fuel mixture. 'It left me with all or nothing at low revs, and with dry settings that was all I needed.' The two problems lost him any chance of challenging Nakajima, whose Camel Lotus was sliding around too much for the Japanese driver's liking as its rear tyres lost their edge. With Gugelmin's enforced slackening of

pace, however, Satoru sensed an outside shot at eighth and just failed. As the turquoise March crossed the line for the last time, the yellow Lotus was only three hundredths of a second behind.

Thirteenth place was poor reward for another sterling drive by Andrea de Cesaris as Gunter Schmid's Rial team played on homeground and was desperate to better Erich Zakowski's Zakspeed equipe. A fierce row had erupted between the two German team owners the previous week in the



ELIAS GOREN

wake of designer Gustav Brunner's decision to leave Rial for Zakspeed next year, and some harsh words had been exchanged. In the race, however, Brunner's excellent Rial ARC 01 was good enough to see de Cesaris set fourth fastest race lap (better than both Ferraris) in a charge that took him past the Sachs Kurve gravel. Then he dropped it again at the Ost Kurve and damaged a wheel, forcing a quick pit stop, and thereafter the car again consumed its clutch.

Both Zakspeeds qualified, to the team's great relief, and again Bernd Schneider hinted at his promise with a solid run to 12th, nominally giving Zakowski a moral victory over Schmid. Team-mate Ghinzani was the other side of the Rial, the Italian hardly covering himself in glory after his incident with Berger. Both German cars had fought strongly, if unsuccessfully, with Jonathan Palmer's Tyrrell 017, which the Englishman had driven quite superbly to 11th. Team-mate Julian Bailey narrowly failed to qualify as he and Jonathan struggled with the British chassis' aerodynamic shortcomings, and though Palmer had a brief spin in the Sachs Kurve when trying to counter Ghinzani's superior straightline speed, he finally went ahead as the Zakspeed pitted with a deflated tyre.

There was encouragement for Ligier when Arnoux qualified 17th in a

heavily revised JS31, but Stefan Johansson didn't make the race in his old chassis, and Arnoux's new one proved grippier as ever in the wet conditions. Likewise, Minardi's season long bogey of understeer kept Luis Sala and Pier-Luigi Martini out of the event, the first time this year neither M188 has qualified.

The luckiest man in Germany was Oscar Larrauri, who had been shown the Euro Brun door in favour of Christian Danner but stayed on when the tall German couldn't be accommodated in the ER188. Over-shadowed by team-mate Stefano Modena, who made a brilliant start only to retire early with a misfire, Larrauri soldiered on to an unremarkable 16th.

The unluckiest man was poor old Gabriele Tarquini, who actually topped the Friday free practice time-sheets for all of two minutes but was again unable to pre-qualify the bulky Coloni FC188 which continued to be plagued by understeer and poor straightline speed.

The best man, though, was Senna, who won as he pleased, the master yet again of tricky conditions that caught out the unwary or the foolhardy. His fifth victory of the year edged him within three points of Prost in the title chase, with a clockwork relentlessness that was uncanny and bore the stamp of irresistibility. ■



DRIVERS' WORLD CHAMPIONSHIP

Pos	Driver	Total
1	Alain Prost	60
2	Ayrton Senna	57
3	Gerhard Berger	25
4	Michele Alboreto	16
5	Nelson Piquet	15
6	Thierry Boutsen	12
7	Derek Warwick	9
8	Nigel Mansell	6
8	Alessandro Nannini	6
10	Jonathan Palmer	5
11	Ivan Capelli	4
12	Andrea de Cesaris	3
12	Mauricio Gugelmin	3
14	Pier-Luigi Martini	1
14	Eddie Cheever	1
14	Riccardo Patrese	1
14	Satoru Nakajima	1

CONSTRUCTORS' WORLD CHAMPIONSHIP

Pos	Team	Total
1	McLaren-Honda	117
2	Ferrari	41
3	Benetton-Ford	16
4	Lotus-Honda	10
5	Arrows-Megatron	7
6	March-Judd	5
6	Williams-Judd	5
8	Tyrrell-Ford	3
9	Rial-Ford	1
10	Minardi-Ford	1

1988 GERMAN FORMULA ONE GRAND PRIX

LENGTH
6.797 km
4.223 miles



FASTEST LAPS

Driver	Time	Lap
Alessandro Nannini	2m 03.032s*	40
Alain Prost	2m 04.888s	21
Ayrton Senna	2m 05.001s	18
Andrea de Cesaris	2m 05.413s	42
Michele Alboreto	2m 05.704s	11
Gerhard Berger	2m 05.735s	7
Nigel Mansell	2m 06.317s	9
Alex Caffi	2m 06.814s	42
Ivan Capelli	2m 06.833s	15
Mauricio Gugelmin	2m 06.946s	10
Satoru Nakajima	2m 07.242s	43
Thierry Boutsen	2m 07.273s	7
Eddie Cheever	2m 07.368s	42
Derek Warwick	2m 07.545s	43
Riccardo Patrese	2m 08.191s	12
Jonathan Palmer	2m 08.507s	41
Philippe Streiff	2m 08.812s	33
Bernd Schneider	2m 09.142s	43
Yannick Dalmas	2m 09.545s	39
Nicola Larini	2m 09.715s	27
Oscar Larrauri	2m 09.754s	12
Piercarlo Ghinzani	2m 10.425s	38
Rene Arnoux	2m 11.241s	12
Philippe Alliot	2m 11.403s	7
Stefano Modena	2m 13.447s	10
Nelson Piquet	3m 39.605s	1

OFFICIAL STARTING GRID

A SENNA (1m 44.596s) McLaren-Honda MP4/4	(1)	A PROST (1m 44.873s) McLaren-Honda MP4/4
G BERGER (1m 46.115s) Ferrari F187/88c	(2)	M ALBORETO (1m 47.154s) Ferrari F187/88C
N PIQUET (1m 47.682s) Lotus-Honda 100T	(3)	A NANNINI (1m 48.298s) Benetton-Ford B188
I CAPELLI (1m 48.703s) March-Judd 881	(4)	S NAKAJIMA (1m 48.781s) Lotus-Honda 100T
T BOUTSEN (1m 48.837s) Benetton-Ford B188	(5)	M GUGELMIN (1m 49.511s) March-Judd 881
N MANSELL (1m 49.880s) Williams-Judd FW12	(6)	D WARWICK (1m 50.459s) Arrows-Megatron A10B
R PATRESE (1m 50.719s) Williams-Judd FW12	(7)	A DE CESARIS (1m 51.004s) Rial ARC 01
E CHEEVER (1m 51.171s) Arrows-Megatron A10B	(8)	P STREIFF (1m 51.642s) AGS-Ford JH23
R ARNOUX (1m 52.080s) Ligier-Judd JS31	(9)	N LARINI (1m 52.168s) *Osella-Alfa Romeo FA1J
A CAFFI (1m 52.277s) Dallara-Ford Bms199	(10)	P ALLIOT (1m 52.293s) Lola-Ford LC88
Y DALMAS (1m 52.436s) Lola-Ford LC88	(11)	B SCHNEIDER (1m 52.664s) Zakspeed 881
P GHINZANI (1m 52.674s) Zakspeed 881	(12)	J PALMER (1m 52.908s) Tyrrell 017
S MODENA (1m 52.998s) Euro Brun-Ford ER188	(13)	O LARRAURI (1m 53.043s) Euro Brun-Ford ER188

*Started from pit lane

RACE CLASSIFICATION AND RETIREMENTS AFTER 44 LAPS

Pos	Driver	Nat	Car	Laps	Time/retirement	Speed (mph/kmh)
1	Ayrton Senna	Bra	McLaren-Honda	44	1h32m 54.188s	(120,018/193,148)
2	Alain Prost	Fra	McLaren-Honda	44	1h33m 07.797s	
3	Gerhard Berger	Aut	Ferrari	44	1h33m 46.283s	
4	Michele Alboreto	Ita	Ferrari	44	1h34m 35.100s	
5	Ivan Capelli	Ita	March-Judd	44	1h34m 43.794s	
6	Thierry Boutsen	Bel	Benetton-Ford	43		
7	Derek Warwick	GB	Arrows-Megatron	43		
8	Mauricio Gugelmin	Bra	March-Judd	43		
9	Satoru Nakajima	Jap	Lotus-Honda	43		
10	Eddie Cheever	USA	Arrows-Megatron	43		
11	Jonathan Palmer	GB	Tyrrell 017	43		
12	Bernd Schneider	Ger	Zakspeed	43		
13	Andrea de Cesaris	Ita	Rial-Ford	42		
14	Piercarlo Ghinzani	Ita	Zakspeed	42		
15	Alex Caffi	Ita	Dallara-Ford	42		
16	Oscar Larrauri	Arg	Euro Brun-Ford	42		
17	Rene Arnoux	Fra	Ligier-Judd	41		
18	Alessandro Nannini	Ita	Benetton-Ford	40		
19	Yannick Dalmas	Fra	Lola-Ford	39		
20	Philippe Streiff	Fra	AGS-Ford	38		
21	Riccardo Patrese	Ita	Williams-Judd	34	Accident	
22	Nicola Larini	Ita	Osella-Alfa	27	Electronics	
23	Nigel Mansell	GB	Williams-Judd	16	Accident/gear linkage	
24	Stefano Modena	Ita	Euro Brun-Ford	15	Power Loss	
25	Philippe Alliot	Fra	Lola-Ford	8	Accident	
26	Nelson Piquet	Bra	Lotus-Honda	0	Accident	

Fastest lap: Nannini on lap 40, 2m03.032s, 123.583mph/198.885kmh.

Note: retirements show number of laps completed, not actual lap of retirement, which would in each case be lap shown plus one, i.e., Patrese completed 34 laps but actually retired on his 35th.



LUKAS GORTS



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ROBERTO RAVAGLIA 1988 EUROPEAN TOURING CAR CHAMPION

HOW TO STOP A CHAMPION

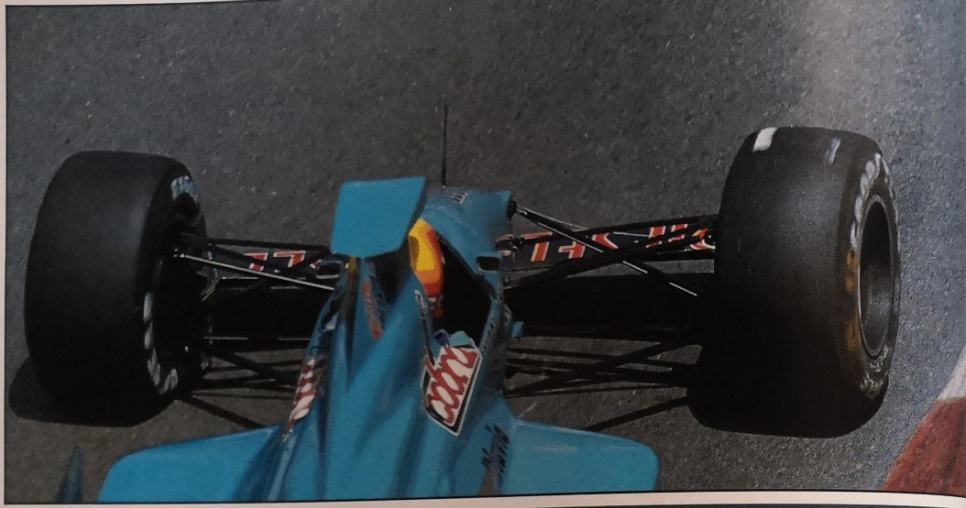
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OUT OF THE BLUE



Take two 25 year old drivers and 29 year old chief designer. Throw in a journalist as a team manager — paying no heed to the old adage that says 'those who can do, those who can't, write about it' — and a determinedly cynical Aussie as crew chief. Equip this unlikely combo with a big money sponsor that markets in just one country. Make the resulting car stropily radical. Spray-paint everything which moves in an eye-searing turquoise known as Miami Blue. Then get results. That, in a paragraph, is the year-to-date story of the Leyton House March Racing Team, currently regarded as Grand Prix racing's team most likely to. Eighteen months on from a shaky start, Leyton House March is one of the success stories of 1988: a young, funky, upstart racing operation that is scoring top six finishes in a McLaren-dominated season. But what makes this team tick? And who are the key players in an oddball castlist? Only the March name and managing director Robin Herd remains from the original March Formula 1 team which took on the racing establishment in 1970 with Chris Amon, Mario Andretti and Jackie Stewart driving. The team eased on through the seventies, taking

three Grand Prix wins and experimenting with tiny Formula 2 based Formula 1 cars. Then Herd switched the company focus to Formula 2 and then, with typical foresight, America. And March dominated Indy through the eighties. Next, Herd made March — or the March Group plc, as it is today — the first publicly-quoted race car company on the planet, with shares sold on the London Unlisted Securities Market. That, pre-Black Monday, was a smart move. And Herd wanted to take March back into Formula 1. In his late forties, Herd matches a keen business brain



BY RUSSELL BULGIN

with an undiminished enthusiasm for racing. But before March returned to the Grand Prix circus which sired it, Herd needed to satisfy two criteria. Firstly, the project had to be tackled correctly: the right structure, designer, drivers and, of course, budget. March's racing through the seventies had often been comprised by underfunding and, Herd knew, in the hyper-tech eighties, dollars talk. And — and this is typical of Herd's approach — the team had to have the right attitude, show the right feeling: a kind of laidback professionalism, low on razzamatuzz, heavy on hard work and free of bursts of petty egotism. Herd wanted a team he could enjoy. Somewhere on the periphery of these thoughts — which Herd began to crystallise through 1986 — was an Italian driver called Ivan Capelli. He didn't look much like a racing driver — he was a dead ringer for actor Dustin Hoffman, for a start — but he was winning Formula 3000 races for a chronically underfinanced team run by Italian Cesare Garibaldi. Winning in a March. And then he started picking up drives in Japan for a team called Leyton House and distinguishable only by its searing greeny-blue livery. Suddenly, Capelli's European

car was slicked over in the same vivid blue. Capelli had won one F3000 race in 1985 — he was Italian F3 Champion and European F3 Champion in the two preceding years — and won the '86 F3000 series. He raced Formula 1 sporadically for AGS, and then finished fourth with Tyrrell in the first Australian Grand Prix at Adelaide. In Capelli, Herd had his driver. Capelli had a solid relationship with Leyton House. But what was Leyton House? The answer, it seemed, was nothing and everything. Leyton House was the name given to the racing operation — the hobby, even — of Mr Akira Akagi, boss of Japan's huge Marusho property company with an annual turnover that now approaches two billion US dollars. Three years later there would be a string of Leyton House shops in Japan, the Leyton Hills Country Club outside Tokyo and an offshoot in Milan designing and producing Italian clothes for export to Japan — each capitalising on the fact that Leyton House was now, thanks to racing, a globally recognised brand name. But, in the beginning Leyton House was the pet project of a Japanese millionaire, who wanted to be in Formula 1.

Capelli and Leyton House. Driver and backer, Herd had two key pieces of this jigsaw. Team manager? Herd thought Ian Phillips could do the job. Phillips started out as motorbike messenger on London's respected *Auto-sport* magazine, worked his way up to editor, ran the successful Gunnar Nilsson Cancer Treatment Campaign, headed up the Donington Park circuit for a while and then went freelance. His beat? Formula 3000. He lived ten minutes drive from March's base in the Oxfordshire countryside and spent a lot of time hanging out at the factory. Phillips also knew everybody in racing — but could he run a team? Herd thought so.

Phillips and Harvey Spencer started work in February 1987. They had a small factory unit on a Bicester trading estate dominated by the brash now Formula 3000 chassis-makers Reynard. In the early days Spencer and Phillips were the Leyton House Grand Prix team. Spencer was an ex-Brahman man from the Nelson Piquet/Gordon Murray glory days who had watched his team implode through 1986. An Aussie who served his



rejjed Formula 3000 car built by a seven-strong team. It looked smart enough, but it was a makeweight. Capelli qualified last, nearly four seconds slower than the car ahead of him. In the morning warm up — and serving as a portent of the season ahead — the Heini Mader built Ford-Cotsworth DFV engine failed. There was one spare engine but that was destined for the pukka 871 chassis at the next race. Leyton House March withdrew: the 87P, with its F3000-sized fuel tank, would have run out of fuel before the chequered flag ...

Leyton House March scored a point for sixth place at Monaco in 1987. Nothing more. The car was stolid and dependable in the second half of the season and constantly let down by appalling engine reliability. By mid-season, Capelli was forced to miss a couple of test sessions due to prior commitments: British F3 Champion Andy Wallace tried the car as did F3000 racer Mauricio Gugelmin. Ian Phillips knew Gugelmin: more to the point, in a category which had labelled the Brazilian as fast but not a fighter, Phillips believed in him. He tested well. Fast, consistent, a crisp line in understated feedback.

Capelli and Gugelmin. Two young drivers. The team believed in them and they in the team. Herd and Phillips could begin to see the shape of 1988. As could Adrian Newey. Newey had been March's Indycar designer at an impossibly young age, and then defected to engineer Mario Andretti's Lola for a year of American CART racing. Robin Herd — as one of the leading race car designers of the mid-sixties through the seventies — rated Newey. At the 1987 Hungarian Grand Prix Newey was in the Leyton House March pit, clad head to foot in Miami Blue and engineering Capelli's 871. He was already thinking about a car to be labelled the Leyton House March 881.

The Leyton House March 87P was a



It would be powered by the Judd V8 engine which distantly related to the Honda V8 which Gugelmin had used in his F3000 Ralt. Judd's Engine Development company was a little like Leyton House March: a small, tight-knit and with a point to prove. The Judd was a small, light, compact engine with few nasties. The Leyton House March 881 was its perfect match. Adrian Newey's car looked to have been sculpted by the



LUKAS GOFFS

What really highlights the progress of Leyton House March in 1988 is the way the team buckled down to turning the brilliance of the 881's concept into a pacesetter reality. The team had grown from seven-strong to just over fifty, still less than half the number employed by Williams or McLaren. The 881 project ran late: the team missed the pre-season Rio tests and then being thwarted by gearbox troubles at Imola. A separate test was established and Gugelmin and the test-men spent days at Wales's bleak Pembrey circuit drilling mechanical reliability into the March. Leyton House March tested virtually every week through mid-season, with tests in Europe scheduled between the Mexican and Canadian Grands Prix. Technical director



ZOCCAM



Newey, with chief draughtsman Tim Holloway and design engineer Andy Brown, refined the aerodynamics and revised the front suspension. Gugelmin established himself as the driving find of the year, and Capelli re-established his credentials as a guy with a future: Leyton House March re-signed both guys on long-term deals. The Leyton House March three-year blueprint, as laid down by Robin Herd, had been fulfilled to the letter. Year one: get established, make progress, set-up team structure, maybe score points. Year two: become non-turbo pacesetters, improve technology of car, show Leyton House March to be a serious team. Year three — next year: win races. And the young men of Leyton House March are on target to do just that. ■



LUKAS GOFFS

airstream. Ivan Capelli and Mauricio Gugelmin have small feet: drivers with a larger boot size — such as Eddie Cheever, or Phillipe Streiff — couldn't drive the Leyton House 881 as the front bulkhead is shaped so tightly. The carbon-composite monocoque — built by March's Comtec subsidiary and also refined in its windtunnel — nips and tucks around the drivers like a Jean-Paul Gaultier suit. A complex front wing system was good enough to be later ripped off by Williams. The car was tiny, designed to cheat the slipstream, but it had a few wrinkles. It was uncomfortable even for two compact drivers. A 'blip' appeared on the right-side of the tub to clear the gearlever and the interior of the cockpit was jiggled around to

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MAGNETI
MARELLI

IVAN CAPELLI (Italian)
Scores 2nd place Portugal
September 25th

MAURICIO GUGELMIN (Brazilian)

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HIGH FLYING

BY BYRON YOUNG



WORLD CHAMPION



I say 'eject' and you say 'ok', you're talking to yourself," said Wing Commander Brian Peggall. 1987 World Champion racing driver and Camel Lotus number one driver, Nelson Piquet nodded and smiled. He had obviously got the point. Flying at 600 miles an hour in a Jaguar jet fighter you don't get a lot of time for discussion. Piquet, was sitting in the briefing room of 54(F) Squadron at RAF Coltishall, an air base buried in the English countryside beyond Norwich. At the invitation of the RAF he was to fly in one of Britain's fastest air defence jets but first he had to go through a series of tests and briefing.

The World Champion had a head start on the game. He had a pilot's licence and loves flying, or more correctly, loves the freedom he gets from being able to fly. But his feelings for his Lear jet are pretty much on a par with a commuter's feelings for a tube train. But flying a jet fighter was something completely different. He had flown hot-foot from the Detroit Grand Prix in his own plane for the chance.

In the briefing room he straddled one of the ragged old armchairs which looked as if it had been taken from a living room in the local village. In front of him 40 year-old Peggall was running through the flight plan on a map pinned on the drawing board. It was the final session of a briefing which had started the night before. There had already been a video instruction on the plane's safety systems, a verbal run through of the aircraft itself, a brief of the ejection seat and the inertia systems. Then the helmet had been medically fitted "so that it is cranially correct — as if it has been sculptured for you". Finally Piquet sat in the cockpit to familiarise himself with it. He was getting a crash course in fighter pilot training which normally took four years and cost over two million pounds.

"We will be going through a simulated attack mission—something that is our bread and butter. Low level at 450 knots," said Wing Co. Peggall. He paused and translated it into Piquet language. "That's something like 500 miles an hour." Brian Peggall was the base commander and like every commander before and since at Coltishall

had been given the nickname of 'Boss' by the airmen under him. He had the same casual, relaxed attitude that seems to emanate from all fliers. Peggall traced the route they would take, throwing in fliers jargon liberally — 'Bingos' and fuel loads — and Piquet took it all in. Afterwards there was a press conference. As a World Champion almost everything is a press. It turned out to be a light-hearted affair. Peggall ran through the programme, saying the plane which was capable of twice the speed of sound, would be doing a sedate 500 miles an hour.

It was Nelson's turn to get a laugh. 'Unless I shunt,' he said. This was a different Piquet. The World Champion's perpetually moody looks — not helped by his dark Brazilian complexion fed by off-season months spent in the south American sunshine — cracked into a grin.

With the formal presentation over it was time for the photographic shoot. It has been a learning year for Piquet in terms of sponsorship and public relations. Brabham didn't seem to care much about capitalising on the young man with gypsy looks who won two world championships with them, Williams didn't seem to ask to

much of him either. But for 1988 he is backed by multinational tobacco company, RJ Reynolds Int Inc and they clearly do care about making their sponsorship work. Piquet left the conference trailed by photographers and journalists and down to the runway. On the tarmac under the wing of a dark green Jaguar fighter sat a gleaming yellow and blue Camel Lotus Honda. The two multi-million pound machines had little in common but they represented much the same thing: speed and excitement. The aircraft may have been called a Jaguar but it looked for all the world like a jackal with compact, pointed muzzle hunched between two sets of powerful shoulders and a body which slimmed back to the narrowest of behinds.

The photographers wanted their posed pictures. Piquet in the car, Piquet out of the car, 'Look this way, Nelson. Smile Nelson. Nelson ...' Wing Commander Peggall in the car, him out. Both standing by the car, by the plane. The squadron by the plane, then the car. Journal-

ists fidgeted and shuffled on their feet. Flight Lieutenant Guy Stockhill, who was to take Piquet on a long sortie later in the day, was being drained of information about his squadron.

"We are the air wing of the eighth mobile force and our job is to reinforce Denmark. We've got 12 pilots here, permanently on standby. We're effectively a rapid reaction force. We have to be ready to be anywhere in the world at 72 hours notice," he said.

There was a collective air of jealousy. It had taken us three hours to get to



'How fast do you do in your Grand Prix car, Nelson?' asked a journalist. 'About 200 miles an hour,' said Piquet with his Brazilian lilt. 'So the Jaguar's a little bit faster,' said Peggall. Everyone laughed.

In response to a question about 'G' forces Peggall explained that Piquet would experience six times the force of gravity — his body would get six times heavier.

'That's different to a car. You get 'G' loading for a very short time going around a corner,' explained Nelson. 'And he doesn't experience negative 'G's in a car' interjected Peggall.



the base — sometimes driving along tracks where you would expect to see a tractor coming the other way. We got the feeling that London was a short hop for 54(F) squadron and Australia a train stop beyond that.

'Each plane costs around seven million pounds. But that doesn't include delivery and registration plates,' he laughed. 'This one,' he said pointing 'is in full war fit, with four cluster bomb units, each containing 1,000 pounds of high explosive. There's a side-winder missile which is air-to-air and heat seeking.'

'It's difficult to describe the explosive power — each of the cluster bombs could probably blow a crater ten feet deep and 35 feet across.'

The price tag was easy to believe. The cockpit alone justified that. The dashboard was a maze of switches dials and meters. On the left was a computerised map which scrolled the countryside as the Jaguar passed over it. Above was a computer system which plotted the airspeed, arrival time and average speed needed to complete the mission.

But most impressive of all was the laser flying controls projected onto the cockpit glass in front of the pilot. It was rather like a computer game. Get the line in the circle and the aircraft was flying straight and true. Simple.

The photographs were over. The Camel Lotus star and his teacher were helped into the 'G' suits — little more than a very wide inflatable belt with a phallic extension which dangled from the belt. 'It is connected to the oxygen supply, which inflates the belt putting pressure on the limbs and stopping the blood draining so

quickly around the body under heavy 'G's' said Peggall.

The pair were strapped into the cockpit with Piquet sitting behind Peggall and higher. The Jaguar fired up and taxied onto a runway. On the ground



it moved like a fragile toy but suddenly it was speeding along the tarmac, then lifting off and climbing, clawing into the clouds at an impossible angle.



The jet circled the air base and then did a slow pass over the group of photographers and television crews — if you can call 500 mph slow, that is. The sky was then quiet until they chute snaking out the back to bring it to a halt. Piquet was first out of the plane and journalists crowded round. He brushed his hand across his face and beamed. 'Fantastic, unbelievable. I have never experienced anything like it,' he said.

'The controls are very light because they are hydraulically controlled, I suppose. Better than my plane. I think if I tried some of those tricks in my plane, it would tear the wings off.' Would the wing commander get a chance in a Formula One Lotus now? 'You'll have to ask the team. I'd like to have it fitted with two seats so I can get my revenge,' said Nelson. What was Nelson's flying like? 'Handled it like a professional from the start. I would be pleased to have him in my squadron any time,' said Peggall. 'I let him handle it virtually from the moment we left the ground and he was very good.'

'I could manage the dives,' said Nelson in answer to another question. 'But when he started the climbs and then the rolls I got completely disorientated.' In fact Piquet had been briefed in a quiet moment that if he were to lose his breakfast he should do so into a glove and not onto the computerised dashboard. He followed instructions.

'A lot of people do that the first time. I don't think Nelson had much to eat in the morning so that played its part. And to be honest, I really put him through it,' said Peggall with a wicked smile. 'But Nelson did enjoy it. During the flight he said 'Incredible ... this is fantastic. Go faster ... faster.' But I must admit the whole experience is very sapping. You're totally out of your environment and there's lots of forces acting on you. What happens is that you are taught to believe the gauges, the instruments, even if your body is telling you something else,' said the experienced Wing Commander Peggall.

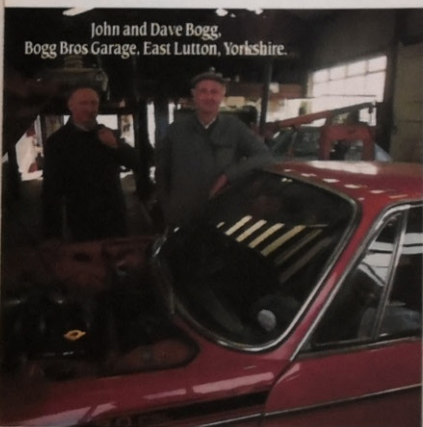
But all that comes with experience and this has been a short trip into a new world for Piquet and the experience had been exhausting. Once back in the administration block he flopped on an armchair and reentered into a semi-slumber, eyes half closed. Piquet went out again later in the day and showed that he hadn't lost his sense of humour. As the Jaguar taxied out for the second time Nelson held up a paper bag he had been given and waved it from the cockpit, smiling.



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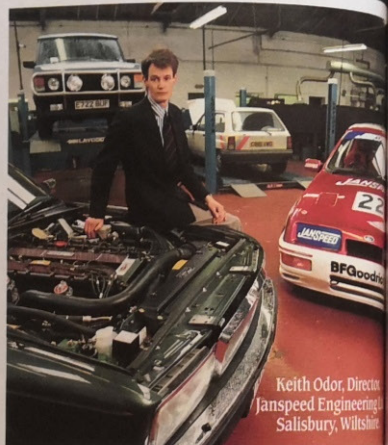
"And so
say all of
us"



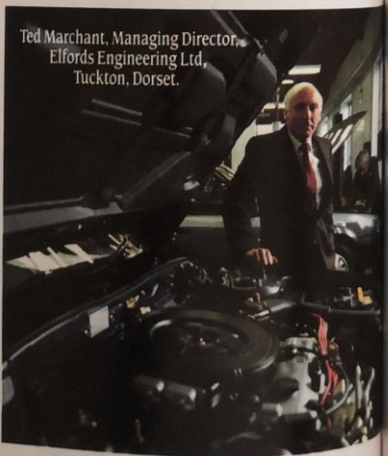
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In 1988, the red and white Marlboro-McLarens have established an almost perfect record in the Formula One World Championship. Driven by Alain Prost of France and Ayrton Senna of Brazil, they have triumphed in every one of the season's first ten Grands Prix. Apart from a gear linkage problem which spoiled Senna's chances in the first race, in Brazil, they have recorded only three retirements — none of them for mechanical reasons. With six races to go they were already well in command of the constructors' championship, and it seems certain that Senna (with six victories) or Prost (with four) will be the world champion driver.

Such overwhelming success has led to speculation that perhaps there is a secret ingredient which gives the Anglo-Japanese racers an unfair advantage. But ask Ron Dennis of Marlboro-McLaren-Honda which is the most important component of his company's racing cars and he will say 'All of them.' Because single seater Formula 1 racing cars are pure bred machines, every item has a function; 'There is not a single part that does not contribute to the performance of the vehicle,' says Dennis. Perhaps the greatest enemy for a racing car designer is the weight limit imposed by the Formula 1 rules. The turbo-powered Marlboro-McLaren-Honda cars must not weigh less than 540kg without fuel and driver; as Dennis points out, this limit dictates that every piece of the car be made as light as possible. 'In fact,' he says 'it is important not to have anything unnecessarily heavy.' Making the car to be both light and strong is perhaps the most difficult part of being successful in Formula 1.

THE MCLAREN ERA



MARK BURGESS PRESS SERVICE

adds Dennis. 'There are quite a lot of cars competing against us this year which are surprisingly competitive, but also unreliable. And of course unreliability comes from poor design ...'

The factory where the Marlboro-McLaren cars are designed and built is a modern building in Woking, 25km

West of central London. Although this impressive facility has been occupied for only two years, it is the management's intention eventually to find an even bigger site, possibly with enough space to build a private circuit for testing purposes. With 150 employees, the Woking factory has the capacity to make virtually every part of its cars. 'The only process which

we do not have here is metal casing, but we make all our own patterns and tooling,' says Dennis. 'The only major parts which are made by subcontractors are the wheels and drive shafts.'

The work of designing a Formula 1 car normally starts in the wind tunnel. In the case of Marlboro-McLaren, scale models of experimental body shapes and wings are made for testing in a tunnel, built to the company's own specialised requirements, at the national maritime institute, 10 minutes drive from the Woking factory. The combination of accurate model making and a moving floor reproduces exactly the conditions which will be encountered on the race track. Indeed, this work is so important that the wind tunnel is in almost constant use.

It was not until August 1987, when details of the link with Honda had been finally agreed, that McLaren engineers started work on drawing the MP4/4 chassis that has been so successful in 1988.



LUKAS GORTS



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Unlike some other leading F1 teams, McLaren now employs a separate group of designers on all new projects, co-ordinated by Gordon Murray, the company's technical director. In addition to this year's turbo-engined car, McLaren has already tested a development chassis fitted with Honda's exciting new 3.5 litre V10 engine which will be raced under the 'normally aspirated' (none-turbo) rules which will come into effect in 1989. The MP4/4 closely follows most of the construction principles established by Marlboro-McLaren over the years since its predecessor, the trend setting MP4/2, was unveiled in 1981. Its chassis is built out of space-age carbon fibre material supplied by Hercules, a US based high technology aerospace company. Unlike some of its 'one piece' rivals, it has separate bodywork.

The suspension, which must bear not only the static weight of the car but also resist the severe forces of riding over bumps and withstanding violent braking, looks almost fragile. For minimum wind resistance, the suspension members are aerodynamically shaped, and the coil springs are

hidden within the chassis. The casing which houses the gearbox is designed to fulfil several functions, including supporting the rear suspension and wings.

When Marlboro-McLaren and Honda Motor Co announced in September 1987 that they had teamed up to collaborate in F1 racing, both sides had already achieved world championship success. 'The most valuable thing about our relationship is that we consider each other to be a partner,' says Ron Dennis. 'That means that instead of blaming each other for any technical problems that we may have, we share them.'

'I had anticipated that the differences of culture and business technique would make it a long time before there was mutual trust and respect. On the contrary, both sides work hard to sort out any difficulties together. Some people might say that this is the Japanese way of doing things. I'm very happy to do it that way, because it's far better and more productive way than constantly confronting each other.'

The Japanese aspect of Marlboro-

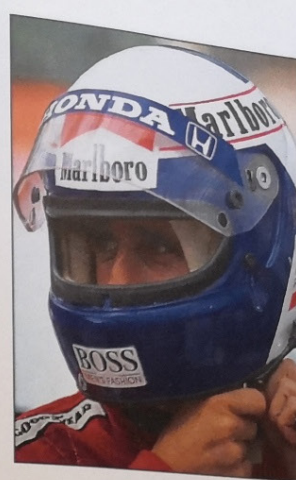
McLaren's business is already strong. Not only do Honda's engineers have an 'open house' invitation to visit the McLaren factory whenever they wish, but there is also a permanently based staff at Woking from Showa, the Japanese shock absorber company. While most engineering discussions are conducted in English, McLaren also employs a Japanese to translate documents and to be present as translator at business meetings.

Rival teams with the world championship ambitions in the future may be dismayed to learn that both partners describe their relationship as 'open ended.' The new V10 Honda engine, said to produce not only plenty of power but also a glorious ear-piercing noise, will introduce the normally aspirated era of Formula 1 racing on a note of optimism for the future.

With the support of his Japanese partners, Ron Dennis looks forward to it eagerly. For him, winning is a matter of planning and hard work. 'It's quite logical,' he says; 'There's nothing mysterious or magic about it. We are just trying to be the best at everything.'

the limit, then he forced Ferrari driver Gerhard Berger into a spin six laps from the end in order to take the lead. 'Seeing the TV afterwards, it looked very easy,' said Alain, 'because of the way that I drive the car. But for sure, from inside it was much more difficult. I was really on the limit — the car and myself — and I could not have gone any quicker.'

Setting records comes easily to the 33-year-old Frenchman (born 24 February 1955). In 1986 he had become the first man in 26 years to win the world title twice in two years. In May 1988, victory for his Marlboro-McLaren-Honda at Monaco (the fourth Prost victory in five years at this classic circuit) confirmed him as the sport's all-time world champion top points scorer.



son Nicholas, now six years old, at Yens, near Lac Lemans. He can sometimes be seen cutting the grass around the house aboard a ride-on motor mower (a Honda, of course!) and he enjoys riding a trials bike whenever possible. There is a large Mercedes in his garage which he drives to some of the European events.

He is conscientious about staying in good physical condition, which he maintains through an exercise programme that includes running, skiing, cycling and gymnastics. His diet is based on the advice of top Austrian sports trainer Willi Dungl, who was introduced to Alain by Niki Lauda.

For relaxation, Alain likes nothing better than a round of golf. One of his regular partners is Jacques Laffite, a close friend and fellow racing

helped me. But I was able to become a full professional after one year.'

Supported by Renault, Alain won two French national championships and went on to become the European Formula 3 champion in 1979. This brought his ability to the attention of several leading F1 teams. In 1980 he scored points on his first-ever Formula 1 appearance, at the Argentine Grand Prix, with Marlboro-McLaren.

Moving to the Renault team in 1981, he won nine races in three years and was always a close championship contender. In 1984, the year that he rejoined Marlboro-McLaren, he won seven races and failed to beat his team-mate Niki Lauda by only half a point.

LOW KEY PROFILE

Since 1984 Alain has chosen to make his home in Switzerland, where he and his wife Ann-Marie live with their

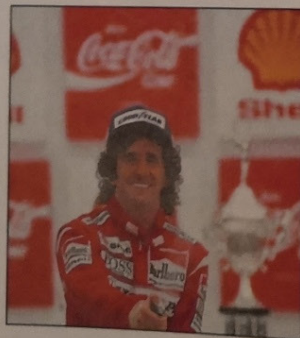


driver, who concentrates on touring car events following a serious accident at the start of the 1986 British Grand Prix. The two men are partners in a golf course near the Dijon circuit where Alain won his first ever Grand Prix in 1981.

WHAT NEXT?

Alain says that he will only carry on racing if the sport continues to give him as much pleasure and satisfaction as it has done through his career. He has a good relationship with his mechanics and he counts Ron Dennis, the owner of the Marlboro-McLaren team, as a personal friend. 'The only difficulties we have come when we are discussing money,' he says. He has demonstrated his continuing faith in his team by signing to stay with them for another two years, until the end of 1989.

ALAIN PROST



All time

After the setbacks of the 1987 Grand Prix season which cost him a chance of a third consecutive world title, it would have been understandable if Alain Prost had lost some of his enthusiasm for racing. In fact, the contrary had been the case. Alain had shown that all the familiar motivation is still there. Armed with a powerful new engine from Honda, and driving the effective new chassis from Marlboro-McLaren, he has won three of the first six races of the 1988 season. Second places in the other three, behind his team-mate Ayrton Senna,

have put him in a solid points lead as the championship goes into the French GP.

'Last year some newspapers suggested that I had lost my motivation because I said that I might take a year away from racing. I think that remark was misunderstood,' says Alain. 'Certainly, if you asked me the question now, I would say that I never have lost the motivation to go racing. The only difficulty for me was that last year I had to find the enthusiasm to leave home and make a trip to Silverstone or Donington, just to fix some elec-

F1 Winner

trical problem or to find the reason for the engine vibration which ruined our season.'

While mechanical problems represented the down side of Alain's 1987 season, before the end of the year he had the compensation of becoming Grand Prix racing's all-time winner. Watched by Jackie Stewart, whose career record of 27 Grand Prix victories had stood since 1973, Alain won his 28th victory in the Portuguese GP.

Afterwards, Alain was exhausted but satisfied. He had driven all the way



MODEST BEGINNINGS

Born in St Chamond, an industrial suburb of Lyon, Alain remains close to his family. However, there was never any question of financial support from his father, who owned a small furniture business.

'My first experience of racing was when I rented a go-kart during a family holiday,' he recalls. 'After that, I was hooked on racing.' Alain's progress through lower echelons of karting into car racing was exceptionally rapid. Nor, as he explains, was it particularly expensive for him. 'I spent 700 francs (approx. \$US150) to buy my first kart and that's all. The year after, a team in France finished. I twice won the French kart championship; I was given some money to go to the driving school of my choice, and then the school

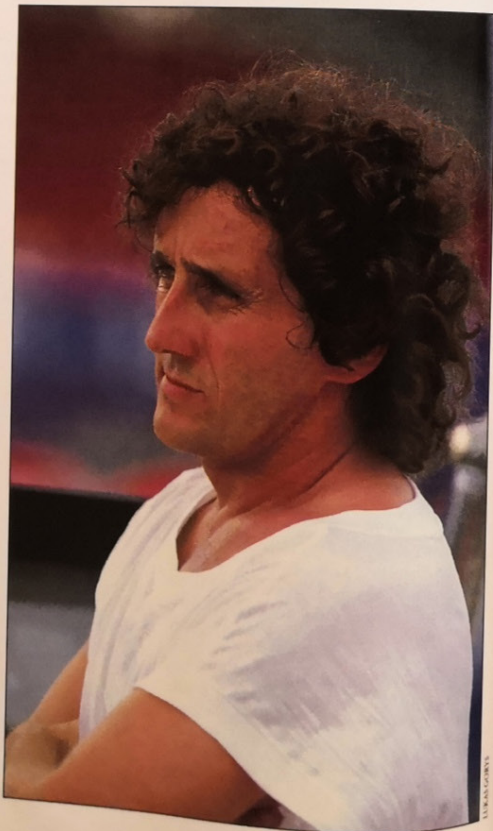
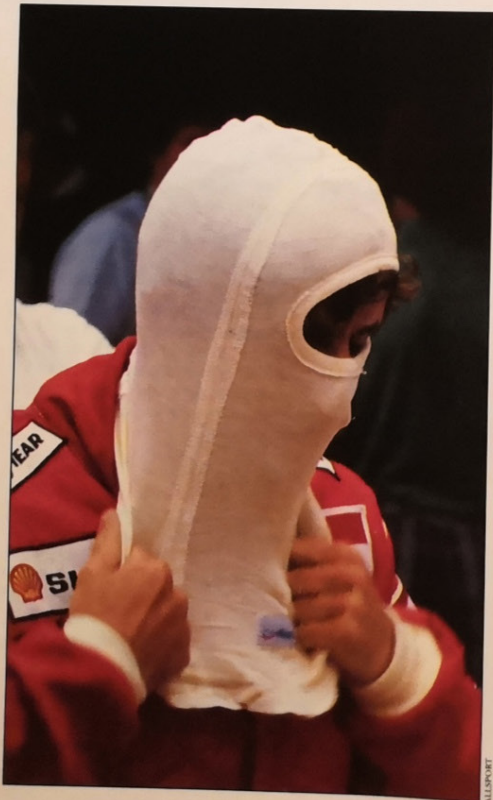
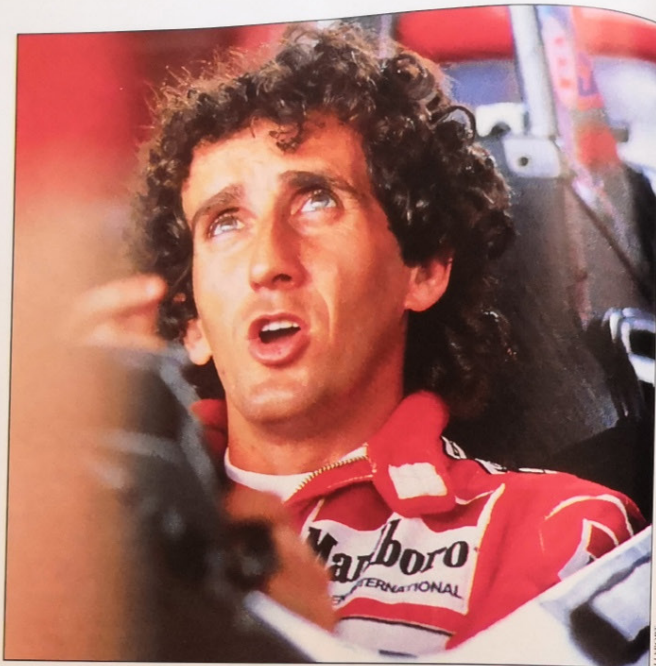


The 1988 season has seen the arrival at Marlboro-McLaren of Brazilian Ayrton Senna, five years Alain's junior. With two such ambitious men in the same team, there is obviously a possibility of conflict. But Alain sees a parallel with the situation at Marlboro-McLaren in 1984, when he himself joined Niki Lauda, the team's established driver.

'When I arrived in 84, Niki was the Old Master and I was the young guy,' he recalls. 'But we worked together very quickly. Ayrton and I seem to have the same sort of relationship already. For him it is very important to be on pole position, which I can understand. For me, the important thing is to win as many races as possible and to finish all the others.'

After he had scored win number 31 in Mexico this year, that policy seemed to be working. 'I am not looking too bad on points for the championship,' he remarked.

Although he has not said when he plans to retire, he has set his objectives high for the 1988 season. After such a great start to the season, it would be surprising if he does not achieve them. ■



Rain, rain and more rain was the forecast at Spa for most of the three days



AYRTON SENNA



DAVE KENNARD



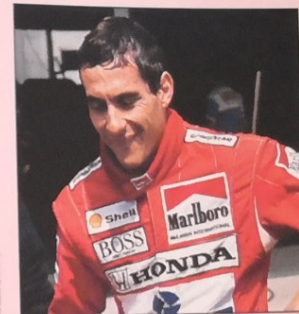
LUKAS GORYS



LUKAS GORYS



LUKAS GORYS



LUKAS GORYS

THE STRUGGLE FOR PERFECTION

Six pole positions in his first six races with Honda-Marlboro-McLaren demonstrate better than any words the level of ability and commitment which Ayrton Senna had brought to his new team in 1988. 'This is the first time in my F1 career that I am able to score consistently well in the World Championship,' he says, 'it is an opportunity which a driver does not have very often, so I am taking full advantage of it.'

In the first four races of 1988, Senna's points slipped behind the total which stood to the credit of Alain Prost, his Honda-Marlboro-McLaren team mate. In the first race he had the heartbreak of being disqualified on a technicality as the result of a last minute change of car when the first start was aborted. In the third round, at Monaco, he crashed when he was running more than 50 seconds ahead of Prost. But his recent victories have put him ahead of Prost on the World Championship points ladder. But with only 11 results to count from the 16 races

on the calendar, the contest is far from decided.

Even before his F1 debut at the beginning of 1984, this quiet and introspective Brazilian has stood out as the logical successor to fellow countrymen like Emerson Fittipaldi and Nelson Piquet. Like them, Senna was a kart champion in his teens and went on to show points-winning ability at an early stage in his F1 career.

A proud native of the city of Sao Paulo, 28 year old Senna (born March 21st, 1960) is the son of Milton da Silva, a former engineer whose business interests have been expanded to include farming and other activities in Brazil's interior. It was his father who first established the future champion's ability, for Ayrton was only four years old when Milton built a tiny kart for him to learn his craft. It would be nine years before he could legally race.

That first race, in a Junior Class 1 kart at Interlagos, produced the first win. Senna was to become Pan-American

kart champion in 1977 before making his first racing trip to Europe in 1978. Although he twice finished runner-up (1979 and 1980) in karting's world championships, his loyalty to the Italian DAP team's outmoded equipment was destined to cost him karting's world championship.

Initially he didn't enjoy car racing. Nevertheless, a full season of Formula Ford with the Van Diemen team in 1981 produced 12 outright wins and two British titles. In 1982, having moved up to Formula Ford 2000, the victory tally was 22 wins and another two championships, including the European. A 'trial' end-of-season F3 race also resulted in a win — and the offer of two contracts which would have guaranteed the 22 year old a place in F1 in due course. One of the offers came from Ron Dennis of Marlboro-McLaren.

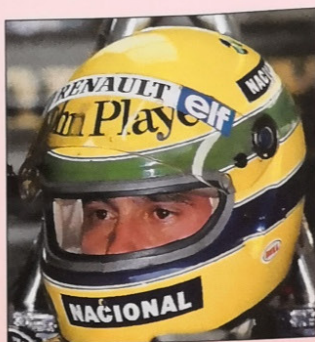
Instead, he decided to concentrate on Formula 3, with Dick Bennetts' West Surrey team. He also decided to use Senna, his mother's maiden name, instead of the full family name. He won

12 races, the Marlboro British title and test drives in F1 cars offered by Williams, Toleman, Brabham and Marlboro-McLaren. Undaunted by the much greater power of an F1 car, he was instantly quick — and for 1984 he chose to sign for Toleman.

Having finished 5th in South Africa, only his second Formula 1 appearance, his best outing with Toleman was at Monaco, where he was lying second and closing on eventual race winner Alain Prost when heavy rain forced the event to be stopped in controversial circumstances. Later he was to announce that he would join Lotus, the team which put him under contract for 1985/1987.

The first win was to be a memorable Portuguese GP in the rain at Estoril. His six wins for Lotus made Senna the marque's most successful driver since Mario Andretti took the 1978 world championship. In 1987, using the computer controlled 'active' suspension which he had helped to develop with the Lotus technicians, he won at Monaco and Detroit.

But the competitiveness of Lotus seemed to be slipping, and in September 1987 it was announced that Senna and Marlboro-McLaren would at last be working together. As he had done before, Senna returned to Brazil for a long period of rest and to prepare



LUKAS GORYS



LUKAS GORYS



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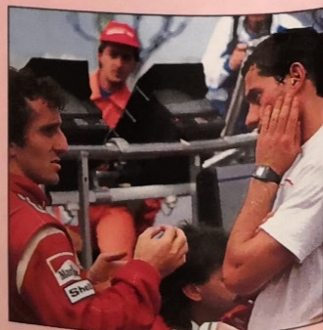
himself for the challenge awaiting him as the team-mate of twice world champion Alain Prost. Senna's single-minded approach to the sport marks him out in contrast to many of his rivals. He deliberately maintains a close relationship with the engineers and mechanics of the Honda-Marlboro-McLaren team, invariably staying at the circuit with them until late at night both on qualifying and race days.

When not racing or testing for Marlboro-McLaren, Senna spends as much time as possible at home with his

family in Brazil. He follows a strict physical training programme set for him by the coach of the national volleyball team. A single man, his European residence is in Monaco. For relaxation, he builds and flies radio-controlled model aircraft. But his main ambition remains what it has always been; to succeed in his chosen profession by the application of talent and hard work. ■



DAVE KENNARD



LUKAS GORYS



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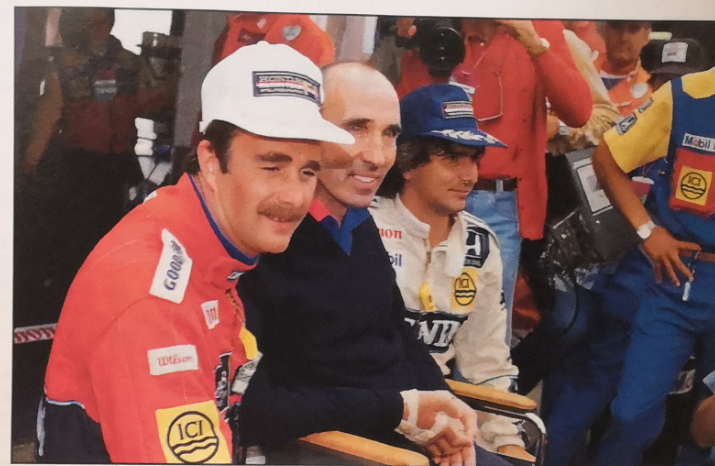


FRANK



BY STUART SYKES

CONFESSIONS



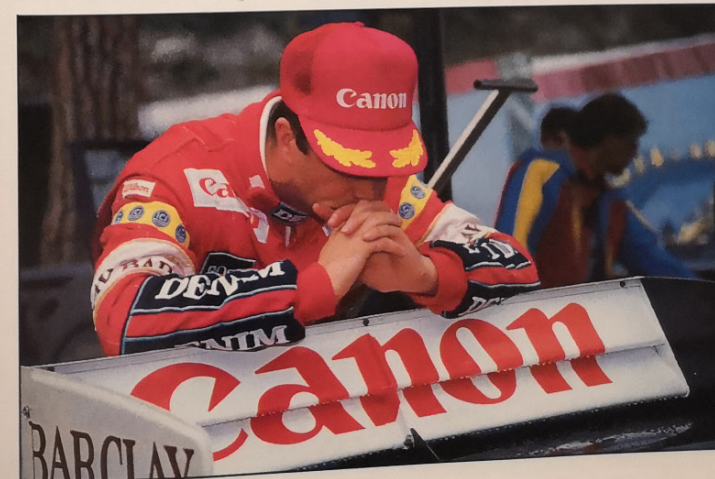
There was a case, perhaps, for seeing Nigel Mansell at the Hungarian Grand Prix as a mirror image of all that has befallen the Canon Williams team in 1988. Unwell, down on power and frankly struggling, the gritty Brit nonetheless planted his FW12 on the front row of the grid; in the race itself he hounded Ayrton Senna's McLaren for 12 laps before spinning; collected it all up superbly to continue, but had to admit defeat and retire exhausted after 60 laps. The effort had proved just too much, even for this giant of today's Grand Prix racing. So it has been for Williams throughout this season. The team of the Eighties — four Constructors' World Championships, three Drivers' Crowns — has struggled with down-on-power engines, a variety of mechanical problems, and a race record that had yielded fewer than ten points in the ten races to Budapest — a meagre haul to set against the 141 and 137 gleaned in their last two world-

beating campaigns. And yet it all began so well. The mighty Mansell, deprived of Honda horsepower and gambling on the Judd normally-aspirated engine, defied the heat of Rio in the season's opener to elbow his way on to the front row of the grid. 'One of the great single laps in Formula 1 history', said team manager Frank Williams; but neither Mansell nor Riccardo Patrese could live on race day with the McLarens and their turbo-charged Honda engines. Reaching a maximum of 165 mph on the straight, they were 15-20 mph down on the Prost and Sennas of this world, of which admittedly there are only two ... 'All right', says Frank candidly, 'we didn't think for a minute we'd be as competitive in the new environment of 1988 as we were last year. But with the difference in weight and fuel limitations, we believed it would at least be possible to go in there and race with the best of them. That hope, however, was immediately

shattered: it was clear the Hondas were working with 100 horsepower more than we could muster, so the face of the season changed at once — and not for the better as far as we were concerned.'

Not that the Judd engine alone should be asked to shoulder the responsibility for this performance gap. The March cars of Ivan Capelli and Mauricio Gugelmin, for example, have steadily improved all season long with Judd power, to the point where they are now regularly at the head of the normally-aspirated queue behind the McLarens and Ferraris but frequently ahead of other turbo runners. As the very clear-sighted Frank Williams is first to admit, other mechanical problems have exacerbated the sheer loss of Honda grunt.

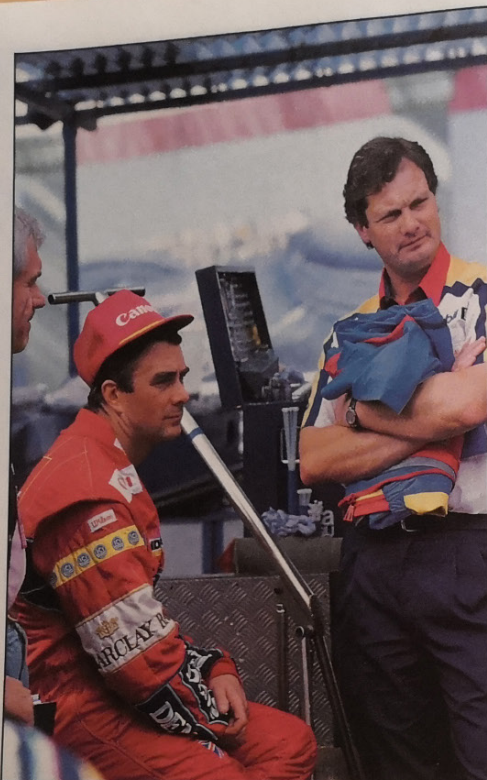
First of these to rear its ugly head was overheating. At regular intervals since Rio, the Williams cars have appeared with additional or modified oil and water tanks, or run with larger radiators in the attempt to cure a disease



that manifested itself in Brazil and has proved chronic: soaring temperatures whenever Mansell or Patrese gets too close to a car in front. The malady struck on that infamously slow parade lap in Rio, which forced Mansell to motor off down the road rather than wait for his engine to overcook on the grid, and saw Patrese's FW12 spew its water inelegantly from its rear end on the second parade lap and expire terminally with just six laps run.

By round two, at Imola, the Benetton had taken over the mantle of atmospheric leaders. San Marino was the first time since the Mexican Grand Prix of 1986 that Mansell — a lowly 11th in qualifying — had failed to start from the front row. Though Riccardo Patrese made it to the finish for the team's first point of the season, Mansell was out after 43 laps — and the finger of suspicion was pointing by this time at the team's 'reactive' suspension system.

You will recall that Nelson Piquet gave the Williams 'active ride' suspension a race-winning debut at Monza last season; but 1988 has thrown up a series of quirks that were to culminate in crisis at Silverstone in July. Punted off at Monaco by Alboreto's over-exuberant Ferrari, Mansell then made an unhappy return to Mexico, where Williams were so dominant in 1987. 'I can't remember driving a car which felt worse', he stated; the reactive system which ought to have given Williams the edge



hit Mansell three times in Detroit qualifying. As a perplexed Patrick Head, the brilliant Williams designer, admitted: 'Each problem is a first-time problem — it's not even as if we're dealing with the same thing twice.' Electrical breakdown ended both cars' Canadian Grand Prix, then suspension failure sidelined Mansell in France as the Benettons confirmed their atmospheric class behind the all-conquering McLarens.

And so to Silverstone... Friday qualifying brought things, you might say, to a Head. Another off — Mansell was beginning to lose count — was the limit, and Patrick Head took immediate action to convert Nigel's car to something like a conventional suspension set-up. An all-night session of heroic proportions at the Williams plant left Mansell able, as he himself put it, to rebuild the position of trust between driver and car that had gone absent without leave. 'It's a bodge, frankly', was the honest admission from Head. 'But for some reason

On the notoriously bumpy Mexico track did quite the opposite. By lap 21 of the race itself both Williams-Judd drivers were spectators. Montreal was little better. Qualifying ninth and 11th, Mansell and Patrese were both sidelined by lap 32. This was engine failure, with oil warning lights giving the drivers a hint of what was to come. What they could NOT cope with was the totally unexpected failures of FW12's suspension, a hair-raising phenomenon that

we've been getting air into the hydraulics, and the car has been a different animal on every lap'. By race day all three Williams-Judds were back to conventional set-up, within the limitations of mechanical ingenuity. Mansell's Silverstone drive is now the stuff of legend. Seventh at the end of lap one, third by lap 24, he passed Berger's fuel-starved Ferrari on lap 60 to claim second place behind the long-gone Ayrton Senna. With Patrese bringing his car home eighth, it was



the first two-car finish for Williams in 1988 — they had four 1-2 finishes in 1987!

Thus it was with renewed confidence that Mansell led the Williams entourage off to Hockenheim for round nine. The decision had been taken to revert to standard suspension for racing purposes, while the Williams R & D team persevered with the reactive system in testing. Not as simple as it sounds, that reversion to 'normal' set-up: fitting conventional-size spring/damper units proved impossible, and it was a challenge to the problem-solving abilities of Head and his team to get the cars in shape again. A radically low rear wing was tried — and rejected — in German qualifying, where a series of engine failures saw the spirit of Silverstone slowly evaporate in Saturday's sun. Race day rain did not cool the atmosphere either: it was an angry Nigel Mansell who retired after a spin that followed his pit stop to investigate the loss of most of his gears, and

Patrese spun out soon after.

And there, more or less, it rests. Martin Brundle has tested the reactive car at Silverstone and Monza in Mansell's absence, but the system has not been raced since the British GP. 'We firmly believe in the system', insists Frank. 'It's inconsistency has cost us a great deal of time in practice and in testing, but that's why we have a Research and Development department, and I know we're again making progress with it.'

Meanwhile Frank Dernie, whose engineering talents lie behind the reactive suspension idea, has been successfully courted by French team Ligier, themselves in even greater turmoil. A more significant move, perhaps, is the impending departure of Mansell to the bereaved Ferrari camp. 'It's a disappointment', admits Frank, 'but it's a minor rather than a major blow. We've lost great drivers in the past and replaced them — and the man taking over from Nigel, Thierry Boutsen, is just about as good and may well become greater.'

Like Mansell at Budapest, then, struggling against exhaustion as well as against his on-track adversaries, Canon Williams have been mounting multiple rearguard actions in 1988. As Frank says, 'We've been fighting a war on

two fronts: we had a new engine, which always means a lot to get on top of; and we've been evolving a Fairly complex suspension system at The same time. We could happily have coped with an engine programme; we could happily have coped with a suspension programme, but not both, and especially not when both have thrown up so many areas of difficulty.'

As Mansell said earlier in 1988, then, this is something of a year in limbo for Canon Williams. But the 1989 revival is, of course, already well in hand. 'You can expect to see an interim Renault-engined Williams around mid-to late October', forecast Frank. Something in the tone of the voice suggested that French V10 engines would be just one of the factors, albeit the crucial one, in Williams' permanent return to the front of Grand Prix grids when turbo-charging goes west at the start of the last season of the Eighties — the decade that belongs to Williams. ■



ENZO FERRARI

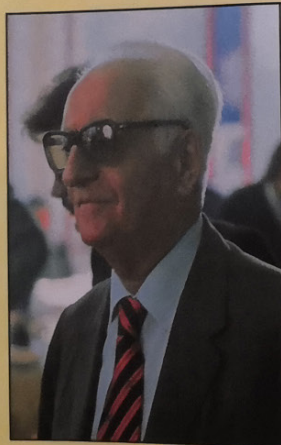
1898

1988

I have never considered myself as a designer or an inventor, but only one who gets things moving and keeps them running.' Enzo Ferrari's self-description, from his memoirs 'My Terrible Joys', encapsulates the blend of single-mindedness and simplicity that helped him create and become a motor racing legend.

Born on February 18, 1898, in Modena, Ferrari was seduced by fast motor cars from the moment he first saw them at close range at Bologna at the age of ten. His boyhood ambitions were, first of all, to be an opera singer; then a sports writer; and finally, a racing driver. It was ironic, in the light of later events, that Fiat should refuse employment to the demobbed Ferrari in 1918, but within two years the young Enzo was an official member of the Alfa Romeo racing team, his most notable victory coming in the Alfa Romeo RL at Pescara in 1924.

Hereabouts another legend was born: the 'Cavallino Rampante' or Prancing Horse which for so long has adorned the finest racing and sports cars in the world. Emblem of the World War I flying ace Francesco Baracca, it was graciously 'bequeathed' to Ferrari when he met the late aviator's mother. That Pescara win also earned him the title 'Cavaliere dell'Ordine della Corona d'Italia', later elevated to 'Commendatore' — the name that attached itself to this ruthless, introspective autocrat who hated it for its Fascist connotations and preferred at all times the simple but accurate



'Ingegnere'.

By 1929 the Scuderia Ferrari was created, to all intents and purposes the racing arm of Alfa Romeo. The birth of his son Dino in 1932 coincided with Ferrari's decision to give up racing himself; his link with Alfa Romeo ended before the Second World War, and in 1943 his move to Maranello saw the creation of the works from which a stream of great cars was to flow, the first — a V12, what else? — in 1946. A sweet moment arrived in July 1951 when a 4.5 litre Ferrari finally defeated the Alfa Romeo 158 in a Grand Prix.

STUART SYKES

Froilan Gonzalez winning the British race at Silverstone. Since those days Ferrari's Grand Prix cars and sports cars have taken over 5,000 victories, with eight Constructors' World Championships and nine Drivers' titles in Formula One, and a host of brilliant successes at Le Mans at the centre of his 13 World Sportscar Championships.

The darkest cloud on this otherwise sun-blessed landscape was the death of Ferrari's son Dino, of nephritis, in 1956, since then the great man has closed himself off from the public gaze of the racetrack — though never being less than totally involved with his drivers and what his cars could help them achieve. The other giant shadow over the Ferrari empire was the accusation that he coldly disregarded loss of life behind the wheels of his racing machines. 'A modern Saturn who continues to devour his sons', was the outrageous view of the official Vatican newspaper. To this, as to other such exaggerations, Ferrari has been able to oppose the obvious bonds that existed between him and such drivers as the great Alberto Ascari, the respect he accorded the likes of Nuvolari and Moss — 'the only two', he said, 'who were better than their cars' — and his grief on the death of Gilles Villeneuve, loved by Ferrari himself and all the followers of the marque.

To see Villeneuve in headlong action, or watch the glorious 330 P4 in full cry at Le Mans, was to be instantly and endlessly captivated by all that



was best about Ferrari. He was himself from Modena, which, he said, spawned men who were 'stubborn, capable and daring — the very qualities that are needed for making racing cars.' He stubbornly resisted any form of corporate sell-out, his arrangement with Fiat in 1969 ensuring the influx of resources while control remained where he wanted it — in his hands. Ferrari had, too, the qualities and charisma that induced the Pope himself to visit Maranello this year, but already by then the signs of increasing frailty were clearly visible.

It was in Adelaide, remember, that — at the time of writing — Ferrari scored the last of their 93 Grand Prix wins; this year's race will be the 440th for the scarlet cars. We must all hope his successors — and the changes this year are already momentous — will heed Enzo Ferrari's own words and simply keep the Prancing Horses running. ■



Enzo Ferrari in his office with Juan Manuel Fangio, Mario Andretti, Olivier Gendebien, Paul Frère, Phill Hill, Luigi Caneti, John Surtees, David Piper, Maurice Trintignant, J. Williams, Innes Ireland, Cliff Allison, Piero Taruffi, Maria Theresa de Philippis, Umberto Maglioli, Dorine Serafini, Mietta Ascari, Gino Munaron, Ernesto Brambilla, Andrea de Adamich, Nannigali, Mario Casoni, Peter Schetty, Jody Scheckter, Patrick Tambay, Rene Arnoux, Stefan Johansson, Gerhard Berger, Michele Alboreto and Giannino Marzotto.

1989 team mates, Nigel Mansell and Gerhard Berger.



Gerhard Berger, winner of the Australian Grand Prix in 1987.



Monaco 1988 and De Cesaris causes problems for the rest of the field after spinning out

FORMULA ROESTMUTALRAT



For some time we had got away with calling it a fiercely competitive formula. Two weekends in August blew that cover: was Formula 3000 in fact a high-speed accident that had found its place and time to happen? Brands Hatch and Birmingham: consecutive British rounds of the 1988 FIA International F3000 Championship, consecutive disasters for the public perception of a racing category that had established itself as the preparatory school for potential Grand Prix drivers.

Both races had to be re-started, not once, but twice; both races produced horrifying accidents which, fortunately, claimed no lives but left the career of at least one Formula One aspirant in tatters; and both races saw F3000 hit the headlines in quite the unhappiest way. Were we to acknowledge all the contingencies that apply to motor racing and put those two events into the 'Bad Luck, but ...' category? Or was it time to re-appraise the whole formula itself? First, a little history. In 1984 Formula Two was 17 years old; far from coming of age, it was becoming aged. Something new was needed as the

bridge between national formulae and the pinnacle of Grand Prix racing. From seeds sown at a paddock get-together in the historic street-racing venue of Pau, the new formula took shape around the element at the heart of any racing car: its engine.

By the mid-Eighties, after all, Grand Prix racing was virtually a turbo-charged formula. What to do then, with the wonderful but apparently redundant Ford Cosworth engines in plentiful supply? Why not use them as the basis for the new formula? No sooner said than done, and the very name 'Formula 3000' stems from the 3000cc or thereabouts of the Cosworth unit.

That engine was used exclusively in 1985, the first season of F3000, but by 1986 Honda had entered the field, and that engine was subsequently developed by John Judd — F1 suppliers to Williams in 1988 — with considerable success. While Ford Cosworths have powered all three F3000 champions to date, each has been the

STUART SYKES

work of a different engine preparation specialist, of which six are now firmly established with the formula.

In virtually all respects F3000 cars are the smaller brothers of F1 single-seaters — in fact, to watch a race in F3000 is to see Grand Prix racing as it was a decade or so ago. With a minimum weight of 540 kilos, engines electronically limited to 9000 rpm, and chassis which must have a single-plane, flat-bottomed surface — no 'ground effect' here, thank you — F3000 cars generate 450 bhp with no turbocharging allowed, and use smaller wings and aerodynamic devices than their Grand Prix counterparts.

Like F1, F3000 now uses a single supplier — Avon — to provide a control tyre, offering an A or B compound, one of which will be designated the official compound for each race; each competitor is allowed 12 tyres for qualifying and racing. The budgets are less mind-boggling than F1, perhaps, but no form of motor sport is cheap, and F3000's costs reflect the category's pretensions. Work on a running budget of 300,000 pounds Sterling per annum for a driver-car combination: the car itself takes around

200,000 pounds Sterling, engines are 100,000 pounds Sterling a time — rebuilds 5,000 pounds Sterling a throw — and the cost of testing between races can be put in excess of 130 pounds Sterling per mile.

Space-age technology applies here as in F1. Carbon fibre and Kevlar are used along with aluminium honeycomb to provide monocoques of extraordinary strength for driver protection — and recent events have proved their worth. It was almost incredible that in the nine-car pile-up at Brands Hatch no driver was killed, though Johnny Herbert and particularly Michel Trolle suffered severe leg injuries; and just a week later Trolle's team-mate in the French GDBA Lolas, Olivier Grouillard, was able not only to get himself to Birmingham but actually to put the car on pole position.

In the latter race David Hunt, younger brother of former World Champion James, was launched over a tyre barrier, gouged a hole in a brick wall and barrel-rolled down the track — then was able to walk to the ambulance, suffering only concussion and bruising. Sophisticated electronic engine management systems are used to monitor and control performance parameters, and CAD (Computer Aided Design) systems are, as in F1, a growing feature of manufacturers' workshops.

As with almost incidents in traffic, then, it would seem that congestion is to blame for some of the things we are seeing on F3000 circuits. First of all, there are just too many drivers clamouring for entry into the 26-car fields: since the formula's inception, over 100 drivers, primarily Italian, have raced in F3000, and entry lists numbering 40 names are now commonplace. Now not all of those can



Johnny Herbert

be drivers of the highest calibre, and not all of their entrants can be teams of the professional quality of GDBA, Oreca March, Madgwick, Ralt and the like ...

Congestion occurs, too, in F3000 practice and qualifying: the sheer weight of numbers makes it necessary to divide fields into Groups A and B, let them have an hour each of free practice and two half-hour sessions each of qualifying practice, and make the top 13 of each group the respective halves of the grid. All of this is packed into one day, not two as in Grand Prix racing. 'We don't want this formula to become too expensive', explains the star of F3000 in 1988, Roberto Moreno. 'That's why we resist when some people say we should mirror Grand Prix racing by spreading practice and qualifying over two days. It gives you more of a challenge to fix the car quickly to qualify well, so it's very good as

it is.'

Not every driver has the easy skills of Moreno in setting up a car, however, nor the professional back-up he enjoys from Ron Salt and the Bromley Motorsport team: F3000 days can be helter-skelter occasions where drivers are often left scrambling out in the dying second of a session to seek desperately for the vital hundredths of a second that mean the difference between racing and packing up early to go home. And in a formula whose 26-car grid frequently spans no more than 2.5 seconds in lap time differences, those hundredths are even more crucial.

Still, the proof of F3000's virtues is the willingness of F1 team managers to recruit graduates from this particular school — and the ability of those graduates to settle into life at the highest racing level. True, some have not made the grade; the very first F3000 champion, for example, was Christian Danner, who moved into Grand Prix racing with Arrows and Zakspeed but has spent the last year in limbo. Pascal Fabre of France is another who could not bridge the gap from F3000 success to F1 struggles with the unwieldy AGS chassis — which Moreno was able to sort out well enough to earn the team a point in Adelaide last year; and others like Adrian Campos or Emmanuele Pirro have flitted briefly across the F1 scene.

The positive side of the picture, though, is the fact that so many of the current F1 drivers came through the F3000 ranks. Like Danner, the next two F3000 champions are in Grand Prix cars: Ivan Capelli, now helping March back to the front of the grid, and Stefano Modena, whose debut came in Adelaide and who

Adrian Campos

Christian Danner



Capelli (left) and Gugelmin (right) now with the March F1 team



DOMINIQUE LIBRY

is now the occupant of a Eurobrun cockpit. Capelli's teammate Mauricio Gugelmin, Larousse Lola driver Yannick Dalmas, Philippe Streiff in the new and much more competitive AGS, Luis Perez Sala and Pierluigi Martini at Minardi, Satoru Nakajima at Lotus — the list of F3000 graduates seems unending.

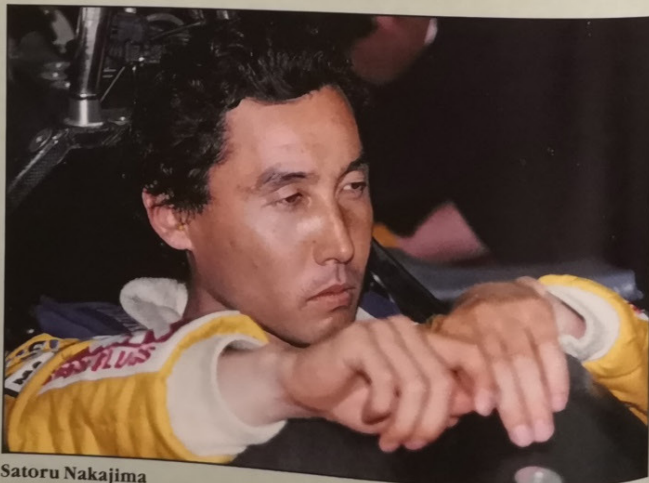
Back to Moreno: 'I would say that a driver who comes from Formula Three and can't get a Formula One drive straight away — a guy who's not a superstar straight away — must see F3000 as definitely the way to go. It's a very competitive formula where you learn a lot and prepare yourself for F1.' Those thoughts are echoed by Stefano Modena: 'For me, F3000 provided wonderful experience, and I really needed it. I went to live in England, worked with an English team — it was new and good for me, and I travelled Europe getting to know the circuits. Some drivers go straight from F3 to F3000, which is such a very big change; F3 is not really like F1 because there is such a big difference in the power the cars have, but F3000 is much closer to Grand Prix racing'.

Not only drivers, but team managers too, believe in the role of F3000 as a Grand Prix training-ground. Perhaps the most prolific nursery for racing drivers in Europe in recent years has been France's Oreca March team, run by Hugues de Chaunac, and he is in no doubt. 'F3000 is the essential route to F1; it lets you see the talent that will grace Grand Prix racing tomorrow, because these young men are among the top 50 drivers in the world. It's like tennis — before you win a Grand Slam tournament, you build up experience by winning elsewhere'.



AGENCE ROUGIER

Roberto Moreno



Satoru Nakajima

But not everyone can be a winner, and perhaps the sad turn of events in recent weeks has come because too many of these young hopefuls are trying to be winners on the first lap. Certainly this year's accident rate is unprecedented in F3000, and just as certainly the major incidents at Brands and Birmingham, coming so close together, have focussed attention on the thin dividing line between close, competitive but courteous racing, and hot-headed determination to beat the other fellow at all costs. For that very reason, perhaps, there was a special drivers' briefing before the Birmingham race at which the need for good driving manners was stressed in no uncertain terms.

We must wait for the dust to settle — almost literally — before the next steps for F3000 can become clearer, but some reappraisal seems inevitable. Some voices clamour for major restructuring of motor racing which would amount to emasculation; shrill commercial voices reply that drivers run the risks they run in full knowledge that motor racing is dangerous; pious platitudes are mouthed both in defence of the sport and in order to attack it. Perhaps F3000 is merely the unfortunate whipping-boy at the present time, but one thing is sure; none of those cacophonous noises can match the impact of the silence that settled on Brands Hatch when we knew something dreadful had happened on that famous track. ■

KETTERINGHAM HALL

THE HISTORIC HOME OF TEAM LOTUS



REUTERS



to know that there's been a house on that site for 1000 years. Warr: 'the present building dates back to the last century. But for example Lady Jane Grey was brought up at Ketteringham before she went off to London to marry the king and have her head chopped off. There are plaques on the walls to mark where trees were planted to commemorate the restoration of the Stuart dynasty, and things like this.'

'During the War it was requisitioned and became the HQ of the Eighth Division of the US Air Force. Another claim to fame was that James Stewart was stationed at Ketteringham during



Since the December night in 1982 when Colin Chapman died, much has happened to Lotus Cars, the business which he left behind. Many of the long-term projects which Chapman personally planned have been achieved, and the company — now controlled by General Motors — has reached new levels of prosperity and success. The motor racing arm of Chapman's former empire, Team Lotus, has also had its moments of euphoria. Although those moments have been rare during the 1988 season, the spirit of Colin Chapman lives on.

Ever since Lotus became a publicly-owned company in 1968, the racing team has been privately owned. That is still the case today: a majority shareholding is controlled by Mrs Hazel Chapman, Colin's widow. Team Lotus and its staff are based in the Gothic elegance of Ketteringham Hall, which is part of the huge Norfolk estate that Chapman acquired when Lotus moved from its old HQ in North London in 1966.

Ketteringham Hall was little more than a ruin when Chapman moved Lotus into this attractive but wind-blown part of eastern England. Now, it is a quiet sanctuary, home to the team which was once proud to have won more world championship GPs than any other. Ferrari recaptured

that record some years ago, and Team Lotus is still in the process of making itself the hugely successful F1 outfit that last won a world title in 1978. In charge of racing, as he has been since he rejoined the team in 1981, is Peter Warr.

Most of Britain's F1 racing teams are based inside a 100-km circle around the western side of London. Although Ketteringham Hall seems much more remote, Warr points out that it's convenient for airports that feed into major international hubs like Amsterdam, and there are several major ports within easy driving distance.

'The only real disadvantage,' says Warr, 'is that we are quite removed from the main area of what one might call motor-racing suppliers in the UK, with the result that our vans and our van drivers do a very high mileage each year. But the benefits far outweigh the disadvantages.'

'One of the advantages of being located in Norfolk is that we use home-grown personnel. They're a settled group, and therefore the temptation to move on to another racing team is less — and they're trained our way, which is better than coming in with pre-conceived ideas.'

Although history isn't the first thing you think about when visiting Ketteringham Hall, it's quite awe-inspiring

the War. There's even rumoured to be a ghost, and I certainly wouldn't be too keen on sleeping there alone myself because there are a lot of creaks and groans and things that go Bang in the night. It is a rural setting and we have owls and bats and mice and other animals — but that's part of country life.'

One of the features of Ketteringham which one might not expect to find is Gerard Ducarouge, the French engineer who was persuaded to join Lotus several weeks after the start of the 1983 season, at a low point in the team's existence. Like Lotus, he was at a low ebb in his career, as Warr explains. 'He'd had a falling-out with Ligier and run into bothers with Alfa Romeo, too. He had a need to re-establish himself, and I think that Team Lotus was a perfect vehicle for him to do that.'

'We needed an engineer of standing to help make good the loss of Colin, and he needed a team with the attack and flexibility and means to get things done quickly that Team Lotus always used to be able to do and still can. There was a very strong motivation for him to come, independent of the fact that he would be living in Norfolk, or whatever other displeasures you may feel there are.'

'The Duke', as Gerard is affectionately known, needed only a short time to

make himself an indispensable part of his new team. Five weeks, to be exact, for that's how long it took him and a hard-working Lotus staff to build what was virtually a new car. That Renault-engined Lotus 94T started from the second row of the grid at Silverstone, its first race, and Nigel Mansell brought it home in fourth place.

Between 1985 and 1987, 'the Duke' worked closely with Ayrton Senna, who won six races for Lotus and helped to re-establish the team's stature in the post-Chapman era. Warr agrees that Lotus has been much less adventurous, in technical terms, than



it was under its founder. 'Colin was an inspirational and intuitive engineer, and because of that when a good idea came to him he wasn't afraid to turn the ship astern and try it, because he'd worked up enough logic or reasoning that justified doing it.'

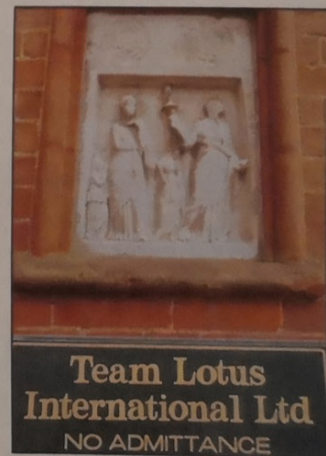
'Gerard as an engineer is different in the sense that he prefers to do the groundwork very carefully, and then having once built a race car, develop it in small increments. That may be viewed as a conservative viewpoint, but I think a lot more work goes into the design and development of the cars now than perhaps they did in Colin's days, and we're not doing development in the field, at the race meetings, in quite the way that we did in Colin's era, because so much of it has already been done.'

However, Ducarouge has never made any secret of the fact that he doesn't

intend to end his days in Norfolk. 'He's in the third year of a four year contract with us now,' says Warr, 'and I don't think we ever anticipated him staying with Team Lotus for ever. Apart from anything else, the level and pressure of the work that he does probably means that he couldn't maintain that pressure without his health failing or without some other problems intervening for an indefinite period. But as long as you're part of something that's successful and can be seen to be potentially successful in the future, there's no reason for him to leave and go to somewhere else where he's not going to have the same opportunities.'

Warr and the staff at Ketteringham Hall see no reason to let the setbacks of the 1988 season depress them or give up hope for the future. 'I think it's sufficient to say that since Colin

died we've been rebuilding a team that was already at a low ebb and hadn't won a Grand Prix title since 1978. We've come from there to be recognised again as one of the top teams. We're employing more people. In RJ Reynolds and Camel we have brought a totally new sponsor to Formula 1. We don't need to justify ourselves to anyone.' ■



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